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INDUSTRY ORGANIZES
For National Defense

ALERT to what is happening in Europe, the American people are setting out to strengthen their defenses against aggression from any quarter. Already the government has laid down an initial program to that end.

The surest defense against aggression is the ability to resist it. If we are known to be well prepared we may avert attack. If we cannot avert it we shall be armed against it. But preparedness against war means preparedness to wage war.

And modern war is an industry. Like every other industry, it is a matter of men, materials and machines. Fighting men must be skilled workers, trained to use an arsenal of special tools and equipment that are just as diversified and just as essential to success as those of any other industry.

The plant, supplies and personnel of war must rival in efficiency those of any peacetime industry. For the stakes of success or failure in war are not paid in money profits or losses: they are paid in the lives and property of the people, in the security — perhaps the survival — of a nation.

* * *

Sound national defense calls first for a comprehensive program, carefully planned to back up a clear-cut policy as to what we expect to defend. Next comes the appropriation of funds to realize that program. These first steps are vital: they are up to government.

Then program and appropriations must be translated into performance. Native raw materials must be produced, processed and stored. Our meager supplies of strategic materials of foreign origin must be built up until we have accumulated ample stockpiles against the use and wastage of active war. And most urgent, because it is most complicated, raw materials must be manufactured into the innumerable items required to equip the modern army.

We of McGraw-Hill, living with American industry as we do, are keenly aware of the effort that will be required to produce the materials and equipment now needed to modernize our national armament.

Tanks and anti-tank guns, airplanes and anti-aircraft guns, machine guns and automatic rifles, trucks and tractors, destroyers and supply ships — these are but a few items from the endless inventory of military and naval equipment that we must produce by scores, hundreds and thousands, even to arm an Initial Protective Force, behind which we might rally our national resources for decisive effort.

Obviously the army and navy must count on American industry for an ample and continuous supply of this equipment, and industry must organize to produce it in vast quantities. This means the construction and adaptation of manufacturing, transportation and storage facilities, the organization of competent executive and technical staffs, the training of skilled craftsmen in numbers adequate to maintain exacting production schedules. All this, in itself, is an industrial organization problem of the first magnitude, but upon it is imposed still another and vital specification—*sustained speed.*

For time is the all-essential ingredient of modern war. It cannot be bought with any appropriation, however great; once lost, it cannot be recaptured; we must make effective use of it while we still have it. And at this juncture we have none to waste in fumbling, jockeying or experiment.

* * *

Two courses are open to carry out such a program.

1. We might adopt the totalitarian plan of nationalizing industry, conscripting the wealth and labor of all, and suppressing the normal incentives and management of industry in favor of the authority and control of government officials.

2. Or we can stick to the American way of achieving national unity and efficiency by intelligent cooperation between industry, labor and government.

There are those to whom the first will appeal as being the more direct. But I am convinced that most Americans will insist that the job be done in the American way. And in this preference the President, speaking for government, already has indicated his concurrence.

But effective cooperation in so complex and unfamiliar a task demands the utmost of mutual understanding and confidence from all concerned. Confusion of purpose and conflict of opinion are bound to arise — have, indeed, already arisen. Needs and capacities in many fields must be reconciled, relative priorities for various products must be determined, specific parts of the whole program must be allocated, supervised and coordinated with other parts. Government officials, smarting under the whip of urgency, must render quick decisions on highly technical matters, while industrial executives, masters of their own operating technique, must adapt themselves to arbitrary and unfamiliar requirements.

Under such conditions, many problems will arise that must be worked out between the men of industry and those of government. Some of them will be the more acute because of the restrictions under which industry has had to work during recent years—restrictions that have curbed not only the expansion of plant capacity, but also the development of improved processes and the supply of skilled workers. Now, from this sag in our industrial growth, many departments of industry must undertake an overnight expansion of capacity to meet the exacting time schedules of national defense. So industry must look to government for the cooperation that will enable it to expand its facilities promptly and yet write off in reasonable time its heavy emergency investments.

* * *

If we are to deal wisely with these situations, and many more we cannot now foresee, everyone engaged in any part of the defense effort must be willing and able at all times to get a fair understanding of the problems of the others. To help maintain such an understanding McGraw-Hill is peculiarly fitted.

1. By the organized exchange of views and information among our 24 papers, we can help to coordinate the thinking and practice of the 1,000,000 executives, technicians and operating men who are their readers, in matters that have to do with their part in the defense project.

2. Through constant contact with government agencies and the men of industry, our papers can interpret to industry the needs and policies of government and to government the problems and requirements of industry.

3. For the men of industry, each of our papers will expand its regular service as a clearing house of technical and operating data, with special reference to the needs of plants that are producing defense materials and equipment.

To forward these objectives we have set up within our company a National Defense Editorial Board. It is composed of the chief editors of our publications that serve the functions and industries that are of key importance to the defense effort. Made up of men intimately familiar with the personnel and practice of their industries, this board will stimulate and supervise the activities of McGraw-Hill papers insofar as they can contribute to the defense effort. It will outline basic editorial themes, directed to the forwarding of that project, to be adapted by each paper to the special needs of its specific field.

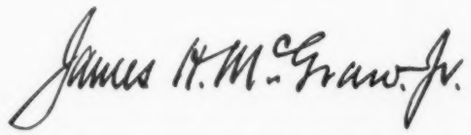
The board will keep close touch with industrial executives and technicians so as to keep abreast of new problems as they arise. It will maintain contact also with government defense agencies and keep our editors posted as to government objectives, plans and problems. Thus it will function as a link between the several governmental defense agencies and the McGraw-Hill editorial organization, and so help each editorial staff to develop a program best suited to the special problems of its industry.

* * *

In thus undertaking our part in an extraordinary industrial effort, we shall not neglect the normal concerns of American industry. So far as may be consistent with the paramount needs of national defense, production and distribution of the goods and services normally consumed by the American people must go on. The effort to mobilize industry for the national defense must be, in large measure, an additional job and an added burden.

That burden is within the capacity of the American people. But it will not be light. And if industry is to carry successfully its heavy share of that burden, it needs the full cooperation of every industrial function.

For more than seventy-five years, through peace and war, McGraw-Hill publications have served to interpret between the various departments of industry and between industry and the American people. Today, as we face these new problems, there is a new and urgent need for interpretation between the industries we serve and the government to which we all bear allegiance. It is fitting that McGraw-Hill should undertake this effort. To it I pledge every resource of our organization.



President, McGraw-Hill Publishing Company, Inc.

This message is appearing in all McGraw-Hill industrial and business publications, reaching over a million readers.

TEXTILE WORLD

DOUGLAS G. WOOLF, Editor

Now, or Never

THIS COUNTRY is in a potential state of war. All of us hope for, and should work for, the prevention of its conversion into an actual state of war. But to deny the possibility of the latter is merely to impersonate the ostrich. The events of these last horrible months in world history should convince the most confirmed isolationist, the most ardent pacifist, that the mere profession of a creed, no matter how sound in theory, cannot save a nation from the fate of Czechoslovakia, Poland, Finland, Norway, Holland, Belgium, France and England.

In the world of today—as has been true in all the worlds of yester-years—no status is assured. All progress made by any one nation must be defended: not only against attack from the outside, but against attack from within. In fact, the latter threat is far more difficult to detect and to resist.

And so we approach the first great task: the consolidation of this nation into a single unit, prepared to preserve its institutions and its freedom.

The difficulty of this task, in a democracy, is too apparent to warrant discussion. The very basis of this country's progress is freedom of speech, of the press, of assembly, and of religion. The fact that that freedom in itself is a breeding-pool of subversive influence presents to this nation the seemingly impossible task of preventing its own destruction by such influences, and yet of preserving the basic freedom which permitted the generation of those very same influences. That task is a typical Gilbert and Sullivan paradox.

We said "seemingly" impossible. Fortunately, it is not *actually* impossible. The solution can be found only in institutions which have made this country great.

THAT BRINGS US to the point of this editorial. There is a tendency now—and it will become increasingly stronger in the months ahead—to substitute personal prejudices for national considerations. The righteous wrath of individuals and of groups could become paramount to the safety of the country and its free institutions.

The anti-Fascist group will call for the extermination of all those who believe in a totalitarian form of government. The Red-baiters will seek deportation of all those even remotely suspected of a connection with Moscow. The Jew-haters, Catholic-haters, Negro-haters, and other phobia addicts will insist on the suppression of those groups. Too ardent labor-unionists will blame it all upon "blood-sucking" corporations. Ultra-reactionary industrialists will cite the extermination of certain labor movements as the only path to national safety. Starry-eyed New Dealers will expend their wrath upon the Republican Administrations of 1920 to 1932. Republican politicians, and others, will assert that "it" is all due to "that man."

In the wake of these hatreds will come, if we don't start now to avert them, movements of the Ku Klux Klan and Vigilante type: self-constituted bodies of citizens, all undoubtedly sincere in their beliefs, but ferocious in their attempts to preserve the "truth" as *they* see it.

The solemn fact remains that such movements would merely be the prototypes of those movements which have created the totalitarianism of Russia, Germany, Italy and Japan—and which have led to the practically complete destruction of the Old World, as a zone where the creed of life, liberty and the pursuit of happiness can be practised.

What, then, is our answer? First, to strengthen and support our basic institutions so that no steps will be taken by any groups, "subversive" or "anti-subversive," except those which have the sanction of a free and united democracy, representing the will of the majority. Second, to restrain individual or group usurpation of the rights and powers of those institutions.

This does not mean that we have to sit supinely by and watch one group or another, or a combination of groups, destroy what our Founding Fathers, and their successors, have built. On the contrary, it means that we would have a Government, so strong through the consent and in fact mandate of the majority of the citizens, that no minority group could defeat that majority determination—and also that no one minority group could take the law in its own hands to cope with some other group which it may regard to be subversive.

This writer holds no brief for pacifism or isolationism. He is a veteran of the last World War, and may have to see his son go to this war. He has the utmost abhorrence of those groups which have capitalized on our freedom of speech and of action to parade in foreign uniforms and to insult our flag, our Government, and our institutions. As the son of a Britisher, he wonders why England waited during more than six months of warfare, and until the enemy was at reaching distance of her coast, to imprison Moseley and similar internal enemies. He is in favor of the suppression of any Fifth Column within our borders, which threatens our democracy.

But he wants that suppression to be the work of the institutions created by that democracy, and not of minority groups who take it upon themselves to dictate to majority opinion. Such minority groups become bandits, far more dangerous than the movements they

seek to suppress. They are the very antithesis of law and order. And "law and order," as the execution of the demands of the majority in a free democracy, was never more essential or more sacred than it is in this country today—right now.

Finally, we have no desire to be naive. We are thoroughly aware of the political campaign ahead. We know there is no chance of postponing that campaign, nor do we think such a step, if possible, would be helpful. It would merely limit the opportunity for free expression of the wish of the people, and that would be the first step away from democracy.

However, we insist that both major parties should be forced to explain to the voters just what they propose to do to (1) keep this country, so far as humanly possible, clear of the debacle which has destroyed the Old World; (2) restrain and prevent all groups, either pernicious or anti-pernicious in origin, from destroying our processes of democracy; and (3) so strengthen those processes, and the institutions which execute them, that this country will not follow those other great nations across the sea into chaos and disintegration.

And then let the better man win!

JUST REMEMBER THIS: It has been claimed, during these last fateful years, that in this country, at least, man was free: free from tyranny from without and from within. Such a claim, today, is just an idle boast, unless we can support it with the full force of our democratic philosophy. What has happened abroad can happen here—and will happen here—unless we take steps immediately, today, now, to prevent it.

It is much easier to prevent it now, than to wait until we have our backs against the wall. Then, it is usually too late for defense, and a democratic offense is then impossible.

Now is the time for all good men to come to the aid of their nation.

THE EDITOR SAYS

A "Must" Job

PROSPECT OF REVISION of the National Labor Relations Act at this session of Congress has not been too bright. And now, facing the job of formulating a defense program, Congress is still less likely voluntarily to take on other tasks prior to adjournment.

And yet, we do not know any one step, beyond the appropriation of defense money and the plan for industrial mobilization, which would contribute more to national defense in the emergency which may lie ahead, than the repeal or essential revision of the NLRA.

When one recalls the crimes against freedom committed by the National Labor Relations Board during peace time, one shudders to think of the way it would perform in war time, with the additional powers which an emergency always brings. In our opinion, there is no step which two of the members of the Board would refrain from taking, in the furtherance of their arrogant, bigoted convictions. And the third member would be powerless to stop them.

It is therefore the duty of industry, of labor, and of the public, to demand that Congress curtail this Board's powers, before emergency enables it to become the American Ogpu it has been trying to impersonate. This one Congressional act would be a vital step toward national unity, so essential as a defense weapon. The Board must not be permitted to continue to engender hatreds, because in time of war internal hatreds are far more deadly than enemy attacks.

The time has come to retire Madden and Smith into the status of disgrace which their own acts have earned for them, and to deprive their successors of any opportunity for similar acts.

This is a "must" job.

HELLO, FOLKS!

THAT IS THE THEME-SONG of the 1940 New York World's Fair. Big as it is, it's trying to be folksy this year—and succeeding. The main improvement is the eclipse of Grover Whalen's gardenia. That automatically gives the Fair itself a chance.

From a textile standpoint, also, this year's Fair is an improvement. Textiles have a place in the sun, or rather in the Fashion Building. Starting on page 73 in this issue of TEXTILE WORLD is a special section devoted to textile and allied features. Look 'em over—and then: Come to the Fair!

—Editor.

Orchids to Pacific

THE CONSUMER WANTS to know. He —or more important still, she—wants to know what he or she is getting for his or her money. And that's not an unreasonable demand.

But the consumer doesn't want technical facts which she (to use the pronoun describing the real family buyer) doesn't understand. She wants facts which she *can* understand.

Manufacturers, as a class, have been too prone to fight the attempts of groups to develop such consumer information, rather than to provide it voluntarily. The stupidity of the programs advanced by many of the so-called "consumer" groups, alias crackpots, was no excuse for this negative attitude on the part of manufacturers. On the contrary, it should have been an impetus to positive action on their part.

And so we hail the Pacific Mills' "Factag," described in our last issue, as a conscientious attempt to discharge this responsibility toward the ultimate buyers of its fabrics. The "Factag" supplies valuable information which consumers need, and should have.

We regret, personally, the omission of percentages of fiber content. We believe that to be essential. The description of a fabric as "cotton and rayon," for example, is merely a puzzle, in our opinion. How much cotton? How much rayon? Under such a lax nomenclature a fabric containing 90% cotton and 10% rayon rates with one containing 90% rayon and 10% cotton. The consumer should know which she is getting. We are confident that eventually the proved progressiveness of the Pacific Mills will lead them to this further step in their educational program.

Meanwhile, our hat is off to the Pacific Mills and to F. S. Blanchard and other members of its merchandising staff who are showing the way to other textile companies.

This is only the beginning—but a swell start.

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Propose Cotton Bags for Raw Sugar

SUCCESSFUL DEMONSTRATION of the practical use under commercial conditions of a bag for raw sugar shipment made from cotton instead of customary jute has been effected under the sponsorship of the American Sugar Cane League, an organization of domestic sugar growers and processors.

If all raw sugar reaching American refineries moved in cotton bags, says the League, an annual consumption of 201,562 bales of cotton would result.

At left, Chris Gambel is drawing a sample for Henderson Sugar Refinery (New Orleans). At right, Sigmund Odenheimer of Lane Cotton Mills, maker of the bag fabric; at left, Chas. A. Farwell of American Sugar Cane League. Holes made in sampling are patched and bags used over and over again. Although initially more expensive than jute bags this re-use feature makes them ultimately less costly.

War and Defense . . . and Textiles

Japan is immediate threat on world trade horizon—Mobilizing Industry

McGRAW-HILL WASHINGTON BUREAU

PAUL WOOTON, Chief Correspondent
Blaine Stubblefield
Irvin D. Foos Carter Field
Robert Colborn M. G. Maury

THIS COUNTRY'S FOREIGN TRADE in textiles is small compared with domestic trade and even if the war in Europe wiped it *all* out, we could take it standing up, though individual exporters and importers would be annihilated. But the outlook in raw cotton, which is very important to our economy, is far from good.

Exports of cotton to Great Britain recently have been heavy, due partly to our barter, with her, of cotton for rubber. But now shipping space to the United Kingdom must be conserved and so must Britain's exchange be saved for airplanes and munitions. Therefore, from May 30, all UK imports of cotton will be subject to license. Preference will be given to contracts already made. England is turning to her own colonies for cotton supplies, and American growers must share the misfortune of tobacco and fruit producers.

If Italy declares war, the Mediterranean will be so churned up by mines, torpedoes and shells that Britain probably will be unable to bring out her Egyptian cotton, and will turn to us for much of an equivalent amount.

One can only guess how far England can skimp her own domestic cotton requirements. Incidentally, one Government official calculates that if the Nazis should over-run England they might find something like 200,000 bales to add to a similar amount looted in Denmark, Belgium, Holland, and Norway, all of whom had been buying heavily. Opinion on Germany's buying is uncertain in view of this.

Meanwhile England is down to 80% of capacity and is losing cotton goods markets. The United States, deeply indoctrinated with high living standards, will have trouble taking over these markets and probably must pass them up to low-wage countries, chiefly Japan. Probably we cannot even continue selling Japan the cotton to make these goods. Most observers agree that synthetic fibers will soon come close to displacing our need for Japanese silk. The Nipponese will then have nothing much that we want in trade for cotton. (We already have practically all the gold.) The Japanese will turn to other sources, or, if they control China, they can produce their entire requirement there. Authorities say that China could nearly equal the United States in cotton production. An accumulation of slow selling cotton goods in Japan has dimmed the prospect of further substantial sales of American fiber to that country this season.

Unless nature "blesses" the United States with a scrawny cotton crop this year—a grim blessing for farmers and for people who haven't enough clothes—there will be at least 3,000,000 bales too much, and nothing definite in sight to be done about it.

There won't be any more cotton export subsidies for two reasons: because many people object to helping foreigners and they think the cotton stamp plan is much better; and because the Allies wouldn't buy cotton at *any* price—unless we extend them credit, which we might in time if we hold on.

There is no telling what lies ahead in the foreign market for American textiles and their products. We have lost, and may lose more, markets in countries over-run by the Nazis. But we might take over some new markets formerly supplied by those countries. Not only have those countries no time to make and market goods, but in many cases their plants have been and are being destroyed in the fighting. This is particularly true of northern France, Netherlands, and Belgium.

So many factors are involved that even the experts refuse to make predictions. If the Nazis win the war they will attempt to consolidate world industry and trade on a low-wage production and barter basis in which it would be nearly impossible for the United States to participate. If the war drags on, credit will be extended to the Allies and our business may boom for a while with their demands. If we join the fighting, the bulge will be still more increased by our own military needs and general war "prosperity." Already the garment boys are looking ahead to another silk shirt era at the ship yards, only this time it may be spun-rayon sports togs.

The biggest threat just now to American cotton and cotton goods foreign markets is Japan, with its low wages and aggressive marketing. Nippon will take full advantage of world confusion to break in where supplies from other countries fail. This country's disadvantage against Japan will increase if we get war boom prices and a big demand, on credit, for the Allies.

THE AMOUNT OF WOOL that will be required for American Army uniforms and blankets will not be important unless a real emergency calls for real expansion. Current activity is made to look much bigger in the headlines than it actually is. Defense recently has cost us about $2,000,000,000 annually. New appropriations for 1941 barely double that figure. Any preparation for actual war would run into ten or twenty billion.

As the Army supply bill stood when this was written, it called for $75,000,000 for clothing of all types. During hearings before appropriations committees, officers asked $40,000,000 to buy melton to be held in stock to equip an army of 1,000,000 men with two uniforms and one overcoat each. The cost of clothing a soldier is $60 to $80 a year (A recruit's equipment includes about 17 lb. of cotton) Army has already called for bids on 10,000,000 yds. of wool goods for June 14 opening.

U. S. stocks of wool are equal to four months requirement, about normal. The British still are holding, under contract, all wool in Australia and New Zealand, but probably they would release more than the 125,000 bales already allotted to us, if urgently needed. We have been buying more heavily than usual in South America and South Africa. In the last 40 years we have imported all the way from only 12% to over 50% of our own total

annual wool consumption. If we should run into total mobilization for war our supply would fall far short. We would put the squeeze on all unnecessary civilian use of wool, and would exploit every possible foreign source, with emphasis on South America, which at present ships to us only a small part of its production. Expansion of United States production would take too long to be useful for war.

There may be a huge Army order for parachutes if the U. S. should go to war. Indications are that the Germans used 20,000 bales of silk from Italy to equip their parachuters. The military is not worried about the silk supply; cotton or rayon could be used. Spun rayon in Army clothing is practical, but its extensive use is not probable unless full mobilization extended a long period, exhausts wool supplies.

If you like your war stories neatly summed up: everything is dandy now, but a big crop would make trouble in raw cotton, because Germany has forced the world to buy weapons reducing cotton consumption by 5,000,000 bales. Japan is the immediate threat on the world trade horizon; and later on the Nazis would make it a double threat, if they won the war.

UNDER A LAW passed 24 years ago, the National Defense Act of 1916, the President has taken potential control of industry for the production of war supplies and munitions. To carry out this program he has appointed a National Defense Commission of seven specialists. The job of this commission is to rationalize those industries which are now and will be critical in the armament program. Rationalization means coordination, the breaking of bottlenecks for maximum production. Only two industries are on the operating table as this is written: airplanes and machine tools. Others are in line. Unless this country actually enters the war, the textile industry may come off scott free, dealing only with the Procurement Division of the Treasury.

If war came, and several million men had to be fitted out with clothing and fabric equipment, there would be a problem in the wool supply, and possibly other unpredictable matters. In that case, the textile industries probably would have to deal with the Defense Commission.

Edward R. Stettinius, Jr., is in charge of raw materials, and he would be your man in case of a shortage, say, of wool. William S. Knudsen, in charge of production, would be in charge of any necessary move to stop regular woolen production and move, say, onto army blankets. Sidney Hillman is the Commission's labor-relations and training man; he would be sent around if the textile mills needed recruits from some other field; and it is assumed the President thinks Hillman is the best man to talk turkey between workers and employers in case of labor troubles. Miss Harriett Elliott, who will protect consumers against privation of goods and high prices, might conceivably have business in textiles in case of extreme pressure on production. Chester C. Davis, who will keep an eye on agriculture might figure in a re-alignment of fiber crop control. Leon Henderson will trouble-shoot on industrial prices, and Ralph Budd will look after transportation.

Wide World Photos

National Defense Commission assembles for action—President Roosevelt with members of the group at a meeting in the White House, May 30. Left to right: William S. Knudsen, Ralph Budd, Edward R. Stettinius, Jr., Secretary of War Harry Woodring, Attorney General Robert Jackson, Leon Henderson, Secretary of the Navy Charles Edison, Harriett Elliott, General George C. Marshall (face turned) and Chester C. Davis. Sidney Hillman was unable to attend because of illness.

THE 36c WOOL WAGE MINIMUM, recommended by Industry Committee 1-A, on May 14 was ordered by Administrator Philip Fleming to become effective June 17, 1940. It was estimated last year that 11,000 of the 140,000 workers in the industry were making less than 36c per hour. The division says that many employers last fall gave their employees a 7% general increase, which undoubtedly affected a few of the 11,000. The industry is scattered in some 750 establishments in 31 States, but 80% to 90% of its production is in New England, New York, New Jersey, and Pennsylvania. The 1935 value of production, according to the census, was $564,071,000. Colonel Fleming has dissolved the wool industry committee.

THE WOOL LABELING BILL which would have required that wool products be marked as to percentage and kind of wool contained, was rejected by the House after an adverse report from its Rules Committee. Chances of further action on it this year are extremely slight. Wool labeling has been proposed to Congress again and again in recent years.

WAR SCOREBOARD OF U. S. TEXTILE EXPORTS AND IMPORTS

(Figures are dollar value in thousands; average for 1937–38–39)

	A; Exports	B; Raw Cotton	C; Imports
United Kingdom	71,765	63,001	44,274
Japan	53,424	32,354	118,293*
Germany	35,851	30,983	11,141
France	31,862	29,278	12,092
Canada	27,957	1,508	2,235
Belgium	10,120	8,925	12,717
Sweden	9,596	7,680	#
Holland	8,713	6,436	2,579
China	6,316	5,615	22,542
Denmark	2,012	1,846	78
Norway	1,821	1,054	#
Finland	1,805	1,569	#
†Mediterranean Group	32,948	31,649°	12,707

A; U.S. Exports, all textiles of all fibers, plus raw cotton.

B; U.S. Exports of raw cotton only.

C; U.S. Imports of all textiles of all fibers, plus raw cotton.

† Total for 16 Mediterranean countries which would be directly or indirectly affected if Italy declares war.

Negligible.

* This is mostly silk; 1937, $99,573,000: 1938, $83,651,000: 1939, $106,936,000.

° Negligible, except Spain and Hungary.

Note; Cotton from Egypt averaged $5,074,000 for the three years.

Compiled from Department of Commerce reports.

Textiles: Meet Orphan Annie

A learned thesis on ideas, what they are, why they aren't, and what not

By JACK CARD

IDEAS ARE SWELL. I am all for them. In fact, I have made my living out of ideas—either my own or somebody else's. So I have no intention of biting the hand that feeds me, particularly this late in life. If I went back on ideas now, I might have to sell peanuts for a living—and despite the fame of the man who wrote the Peanut Vendor song, and of the man who sells peanuts on a street-corner outside the White House, thanks to the protection of Mrs. Roosevelt, I seem to have no personal yen for peanut merchandising. To clinch this thought, I must point out that, so far as I have observed, there is not even a National Peanut Week. And a commodity without a Week all its own is too lowly to interest me.

So, I shall stick to ideas.

But they bother me too. Looking back over the last decade or two, I can't recognize any paucity of ideas in this country. In fact, if anything, there has been a plethora. (I haven't used "paucity" and "plethora" in juxtaposition since the days of my early market reporting.

To come back to ideas. We've had the cosmic suggestion that every third row of cotton should be plowed under. We've had the sublime notion that a group of Technocrats, with energy-dollars, could solve the effects of technological unemployment. We've had the politically practical idea of writing out checks for crops which the recipients hadn't raised. (And, of all modern ideas, I still regard that as the most Satanic which man has yet conceived.) We've had the $60,000 experiment of inducing women to wear Cotton Hose No. 99. We've had the bizarre thought that "industrial relations" can be bettered by a board of three bureaucrats, bossing a gang of immature employees endowed with the several functions of judge, G-man, spy, and labor organizer.

The endpoint of these "ideas" is no longer a matter of conjecture. Women who are supposed to submit to the governmental ukase to wear cotton hose, storm the Nylon counters. Crops whose destiny was to be determined by governmental fiat, lose their world markets and fail to observe "parity" regulations. Employer-employee relations, instead of sweetening under the sun of governmental beneficence, become more sour than at any time in industrial history. Technocrats now wear gray uniforms.

* * *

But there *are* ideas that work. I find them very close to home. There is the tooth-paste manufacturer who induced my children, via the radio, to make a virtue out of brushing their teeth three times a day. The inducement was just a gold star pasted on a certificate for every week of perfect performance. In other words, this merchandiser made my children do something they didn't want to do—and made them like it—all for a little gold star. . . . . And then there's Orphan Annie. If you don't know Orphan Annie, either you haven't any children, or else your children are missing the bet of their lives. Via the radio, my children have gotten secret codes, special gadgets, and—just recently—a child's cocktail shaker in which to mix their Ovaltine. The secret is out: Orphan Annie thinks all children ought to drink Ovaltine. And most of them do, if my children and their friends are fair examples. . . . . And we have previously mentioned in these columns the paper products company which sells such a complete line of paper "textiles" that even the wife of a man who makes his living out of the *real* textile industry just has to buy a bill of these pseudo goods.

Befriending an orphan — in reverse English

We have a crazy idea. Is it possible that some day, somehow, the textile industry could make men, women and children *want* to buy cotton, wool, silk, and rayon apparel? Can textile manufacturers do it as a primary industry, or must they trust their fate to the often brilliant, but certainly spasmodic, sales efforts of retail stores? Can they raise the National Cotton Week idea to the 'nth degree—or at least to the 52nd degree, whereby people will get hurt in the rush, week in and week out, to buy this industry's violets?

There are sign-posts. The Sanforizing campaign made consumers conscious of the value of pre-shrunk fabrics. Lives there a man with soul so dead who can read the cartoon stories of the man with the shrunken shirt—and yet resist the impulse to buy a Sanforized shirt? Then there is Palm Beach. Last summer, men were begging their pet retail stores to get for them the color and weave and size they wanted in Palm Beach. Was this an accident? Not by a jug-full. It was an idea, properly merchandised.

There have been others in textiles—but all too few in proportion to the need.

The fact that there aren't more is due mostly to the scattered state of the primary textile industry, and to the resulting difficulty of carrying an idea from the primary source to the customer at the retail counter.

But you can't just leave it at that. Cluett, Peabody didn't. Goodall didn't. The Durene Association didn't. Lastex didn't. Neva-Wet didn't. A score of other firms didn't.

The answer is three-fold: First, have a real merchandising idea. Second, tie in the primary production of a yarn or a fabric with further fabrication, academically described as vertical integration. Third, do a real merchandising job, just as Orphan Annie has.

Not all textile manufacturing companies can do this. But enough of them can to transform the present state of textile merchandising from backwardness to progress. And the whole industry will gain thereby.

Paging Orphan Annie!

Here Is One Way We Can All Help

An urgent plea for those civilian refugees who cannot help themselves

THE GHASTLY MESS over-seas brings to all of us this one dominant reaction: a sense of futility. If we could only do something about it!

The answer is: We can.

And our help can be directed toward those who need it most and who are most deserving of it.

The real tragedy of the situation lies not with fleeing monarchs, frustrated officials, deposed generals, or even with the soldiers who have fought and bled to stem the march of a brutal mass-murderer.

It lies instead with those millions of civilian refugees who are wandering pitifully toward no known objective. Homes lost, families split up, they push on without food, shelter or clothing, seeking a haven which God knows how many of them will never find!

The world can have no comprehension of the extent of this tragedy. Not even history will give these lost ones a place in its annals. Every day, their ranks are increased; every day, their situation becomes more pathetic. On march, they are the targets of on-coming armies. The invader, as one writer so well put it, uses these refugees as a shield of human flesh. Even if they reach a temporary haven, a sector for the moment out of reach of guns, they find there a population woefully unprepared to care for this swarm of derelicts—unable to provide for them even the barest necessities of life.

THIS IS WHERE this nation comes in. There is just one international agency which can help: the Red Cross. But it needs money in sums beyond any need the world has ever known. Every man, woman and child in this country who still has a roof, some clothing, and food, can contribute to this cause and feel a sense of satisfaction from doing his bit.

But local organization is necessary, to supplement the national organization of the Red Cross. And one excellent way is for each industry or business or profession to make itself responsible for contributions from its own members.

And so we urge that every textile manufacturer, in every section of the country, set up an agency in its plant through which not only a contribution from the firm itself but contributions from all employees are collected and passed on immediately to the local Red Cross chapter.

We further urge all these manufacturers to notify the editor of TEXTILE WORLD, 330 West 42d Street, New York, when this step has been taken. We now plan to devote, in each issue in the months to come, the necessary space for a Textile Honor Roll: composed of those companies who have responded to the call of the suffering millions of civilian refugees from the nations raped by the arch-fiend of history. Do not advise us of the total amount contributed; comparison between different sizes of companies would be unfair. Just tell us that your company has heeded this unspoken plea from millions of inarticulate men, women and children.

One fair way is for all in an organization to contribute one-day's salary or wage. We are urging our own staff to do it. We may be called upon for the same help next month and every month, for a year or more. But, for the moment, let's make a start—and now, not tomorrow.

The best way of visualizing the need is that any one of those families might be your family or mine. There is no difference, except that they are in the path of the monster. They need help.

This is one way—and the only way open just now in which all of us can help.

Wide World Photo

"Millions of civilian refugees who are wandering pitifully toward no known objective. Homes lost, families split up, they push on without food, shelter or clothing."

Douglas G. Woolf

Selling Mill Houses to Employees

Implications and problems arising from new trend, as noted by a researcher

By HARRIET L. HERRING
Institute for Research in Social Science, University of North Carolina

In last month's issue, we published the first of a series of two articles by Miss Herring. She explained the processes of the sales of mill-village houses to employees. In the following article, she analyzes the implications and problems arising from these sales. Miss Herring's articles are based on a personal field study, and represent a vital contribution to thinking on one of the most important problems facing southern textile mills today. She approached this survey objectively, without a brief for any one point of view: Naturally, her conclusions are her own personal ones.—*Editor.*

★ ★ ★

THE CHIEF ADVANTAGES to the mill have been reviewed as reasons for selling the houses. The chief disadvantages are perhaps implicit in these continuing relationships. How will a management like having a village and yet not having it? Having much of the detail, and worry, and none of the authority and convenience? Becoming, by drift of present employees to other plants and resale to non-employees, more and more dependent on workers from a distance? Managers located in large labor markets figure that they will get as many as they will lose. One or two, more isolated, have some qualms on this point, especially as their houses are desirable homes or rental properties for a nearby city. One large mill supplying its products to a parent corporation decided against selling lest such developments interfere with its production schedules in bad weather. Many mills promised purchasers of homes preference in layoffs. This may involve quite elaborate juggling of jobs. How will it affect the response of workers to unionization? Some believe that home ownership will make them more conservative; others are not so sure.

How will the mills like it if the village becomes scrappy in appearance with the houses neglected and run down? So far at least this question is partially answered by the fact that the new purchasers are showing interest in "fixing up" their houses and premises. Nearly every person interviewed volunteered this observation. A woman whose work, of a semi-public nature, takes her into a large number of villages declared that one could tell the difference in the villages that have been sold merely by driving through them. Many persons cited many kinds of "fixing up": planting grass, flowers and shrubs, leveling off uneven yards, building fences, painting inside or out, adding a room or a bath, ceiling a pantry, covering the outside with asbestos shingles. It is a possibility that the reason for all this lies in the sudden release from the rent-transient psychology, together with the fact that in many cases this is the first spring since the purchase. And yet in the villages which have been sold for two or three years the same testimony was received. In fact, it was here that practically all instances of more substantial or expensive improvements were cited.

If this continues—if home owning is not a new toy that will lose its early fascination—it seems to indicate that the long education in at least a minimum standard of upkeep has had its effect. It answers one grave objection to the sale of the houses, namely, the danger that the property will be allowed to deteriorate. . That danger means both the bad psychology and the loss of value due to ill-kempt, down-at-the-heel appearance and neglect of proper repairs—and, incidentally, accompanying blame to the mill. It will take people a long time to stop calling a given group of houses "the mill village," and holding the mill responsible, just as they do now for nearby houses if they contain mill workers. If the expression of individual taste continues over a period of even a few years, the villages concerned will, as a result, lose much of the uniformity for which mill villages have been so criticized.

Of course, there is a danger in this virtue. If an owner attempts relatively expensive changes during the payment period, as a few have, he either uses up savings or increases weekly installments so that he may not be able to weather a slack period.

Owning a home is going to be more expensive than renting from the mill. Payments are a little, or considerably, more than rents; lights and water that were sometimes free with rent or at a nominal cost, may be more; taxes and insurance either are now or eventually will be extra; the fundamental repairs made at the time of the sale will have to be repeated. A mill that does not pay wages which enable the workers to meet these demands assumes considerable responsibility in selling its houses.

To be sure practically every manager says that he put no pressure on the workers to buy. That may be quite true as far as the mill is concerned. But surrounding conditions may constitute powerful pressure. Practically every manager also said there is a housing shortage in the vicinity, with rents more —sometimes double—the payments in the purchase plans. The conclusion is obvious. When a mill announces, as some have done, that it is going to sell, if not to the occupants or some other employee, then to whomever will buy, it is not surprising that the workers stand in line to sign up. Under such circumstances real estate agents, who have handled most actual sales, do not have to use any arguments about the joys of home ownership or the value of a specific piece of property, in order to earn their commission and move along. They can save their blandishments for other mill managements. The possibility of selling mill villages—hundreds of houses to ready buyers—is a fertile new field for them to cultivate. The writer chanced upon some evidence that they are not neglecting it.

NOW IT CAN BE ARGUED that if the worker continues to live in a house for less in purchase payments than rents for some other house would be, he is not out anything if he loses the house. That is correct figuring but poor psychology. The buyer who loses his home will think, not of the money that would have gone in higher rents, but of the money lost in that transaction and in the improvements he may have made. Every buyer who loses will be soured on the whole subject of home ownership. Possibly he will blame the mill for his unhappy experience.

For it stands to reason that some will lose their houses. Not every family is suited to or desirous of home owning. Some have already sold because they could cash in and, for example, buy an automobile. Some have sold at a profit and bought a cheaper house, for example, on a road impassable in bad weather. Every sales plan includes a number who have transferred their houses to other buyers.

Well, that is part of their education and is an inevitable result of so fundamental a change in the habits of two or three generations. The main point is that the change should be made slowly, gradually, with time for consideration so that such experiences will be at a minimum. In the case of one of the earliest sales, the announcement caused consternation in the village. The people felt that the ground was cut from under them; they talked of nothing else. But the management sold only as one or another decided to buy. Gradually more and more bought, and by the end of a year the process was completed. Eight houses out of over 150 have been resold during nearly four years. Some plans where sales were practically instantaneous have had a higher proportion in less than a year. The gradual approach may be more trouble in the beginning, but it seems that, in the long run, it would be less troublesome even for the mill in changing titles and payments.

"Fixing up" is a badge of home-ownership—Planting trees and shrubs, painting inside or out, etc.

NOT EVERY WORKER wants to buy the particular house he happens to be in, but that is often the only one he can buy. Non-worker citizens in the communities expressed concern over this more often than over any other point. The sketchiness of this survey precluded the writer from comparing individual houses in a given village. But even casual observation makes it plain that, group for group, there is considerably more difference in real values than average prices indicate. In one case, for example, modern bungalows with full bath, good-size, level lots, and located within easy reach of many mills, sold for only slightly more than an isolated village of old, flimsy, leggy cottages perched on a hillside with open wells for water.

This question of real values also means future values and involves regularity and permanence of the job. One of the few important assets of the cotton mill worker has been his mobility. Because of mill housing he, more than most industrial workers, has been able to seek a new market for his labor or register dissatisfaction by the one-man-strike—quitting the job. At best the home owner gives hostages to fortune, and economists are beginning to doubt if the modern worker is wise to take that risk.

Payment plans presume income over a number of years. It will be a remarkable period for the textile industry if the next seven to ten years see consistently regular running. Some of the managers, where payments are direct to the mill, said that in the event of short time or a shut-down they will probably suspend payments temporarily. This will not be so easy where payments are to a building and loan association, though at least one manager said he would endeavor to make arrangements so that the buyers would not be foreclosed. There is considerable difference in this phase of real values in the sales plans; some mills have a history of regular operation, others of frequent slack periods. Such local opinion as could be sampled included misgivings on these scores. Just to make the record complete, one might refer in passing to what will happen to values if an isolated mill closes down.

In general, however, local opinion looks with favor on the sale of mill houses because of the traditional relationship between home ownership and citizenship. This has been reinforced by the evident interest shown by the purchasers in their premises. In one community merchants selling radios, furniture and the like on installment plans complained of considerable reduction in buying, especially during the period in which larger amounts were required to achieve the 10% initial payment. A social worker said some applications for aid to aged grew out of the same conditions. Filling stations near a number of villages reported less gasoline sold.

In the occasional and casual opinions obtained in this survey, every worker said he or she liked buying and thought it a good thing. Side-lights from managers and others include the following: Eagerness to get the deed and pride in it . . . Release from mill regulations, as when half the villagers got dogs, an occasional one built a fence, or one set up a little store in one room . . . The beginnings of control by public opinion, as when some protested that an ugly fence detracted from their property . . . To be sure they still depend on the mill, as when one tried to get the manager to discipline a neighbor whose children destroyed new shrubbery . . . one manager declared that their realization of the cost of repairs had been carried over into the mill. Such things reveal a very human picture.

THE ATTITUDE OF LABOR LEADERS toward the sale of mill houses is one either of suspicion or of frank opposition. For example, one forthrightly said it is a scheme to unload a bad investment on the workers. Another declared that even an equity in a house, to say nothing of full ownership, will tie a worker to a given mill more than the village institution has done. Allowing for the difference in point of view, these statements have an undeniable similarity to the mills' arguments for the sales. Labor leaders doubt that the mill worker can afford to pay as high a price as his mobility for the sentimental joys of his own vine and fig tree. They naturally oppose having the recently gained protection of the right to engage in union activities counteracted by psychological and financial barriers to freedom for taking part in group activity that will better his wages and working conditions. One mill they cited, which has a contract with the

(Continued on page 114)

Georgia Group Has 40th Birthday

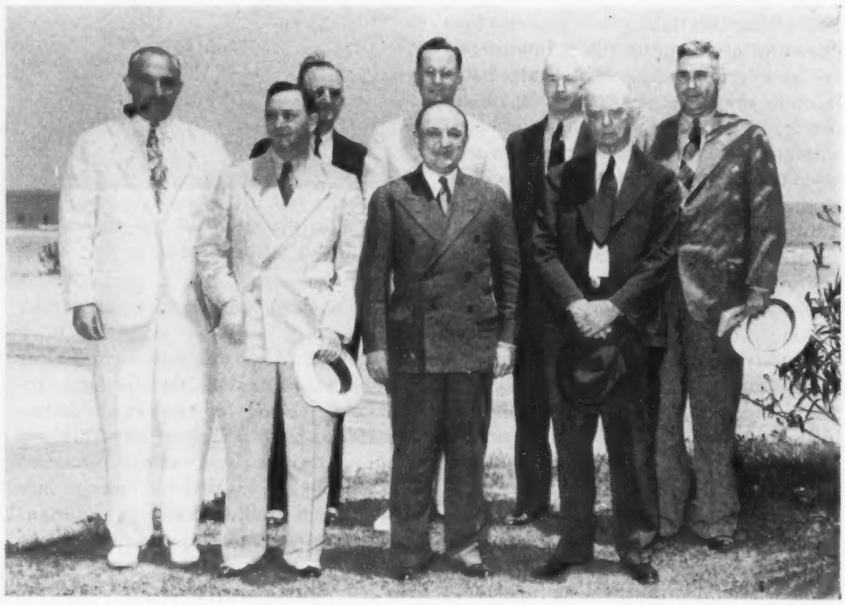
Cotton manufacturers outdo their own record at Sea Island meeting

THE ANNUAL CONVENTION of the Cotton Manufacturers Association of Georgia is always a good party. But when the group has some special reason for celebration, it breaks its own record. That's what happened at the 40th anniversary at Sea Island, Ga., May 16-17. The seemingly impossible feat of improving on one of these annual meetings was accomplished.

The first session settled down to business under the direction of President Robert O. Arnold, who streamlined the program. In his annual address Mr. Arnold reviewed briefly the 40 years of service rendered the textile industry by the association, calling attention to the many improvements in machinery, buildings, working and living conditions, education, and social conditions.

"One of the objectives of every textile community in America," said Mr. Arnold, "should be the training of every employee to be a loyal American citizen. Along with that education must come the inculcation of character, for a community, a state, a nation can be no stronger against subversive forces than the character of the people who make it up. As much as any other one thing in this country, has our passive regard for character become the cause for most of our economic ills. The fundamentals, upon which this great country was built, were inherited from the trials and adversities of our ancestors, and we have no right to give up or destroy this precious heritage. Our personal freedom is at stake and the future of America depends on our holding to these fundamentals, which made us, in a brief space of 150 years, the greatest nation in the world." "No real liberal is against all the reforms instituted by the New Deal," he continued, "but he is opposed to some of the methods of administration."

In conclusion Mr. Arnold said: "We must change our direction and then apply a few simple remedies: (1) Balance the national budget and stop wanton waste, (2) stop labor baiting and bring capital out of hiding so that labor and capital can cooperate; (3) stop buying votes with tax money and have honest elections, (4) Put a premium on thrift and economy, (5) and lastly, let's again put our faith in the Christianity of our forefathers, out of which grew the idea that all men are free and equal. In the simple teachings of the Bible, we may find the remedies for all our troubles."



Group of past-presidents of the Georgia Association—(left to right) Norman E. Elsas, W. Harrison Hightower, Robert O. Arnold, W. N. Banks (front), Fuller E. Callaway, Jr. (rear), Paul K. McKenney, Jno. H. Cheatham, D. A. Jewell, Jr.

Following Mr. Arnold, B. C. Forbes of New York, editor of *Forbes Magazine*, presented an interesting picture of the South's long-term outlook. "The South promises to achieve a greater percentage of economic progress," he said, "than the other two-thirds of the continent—one reason being that there is far greater room and far greater need for industrial and employment development here."

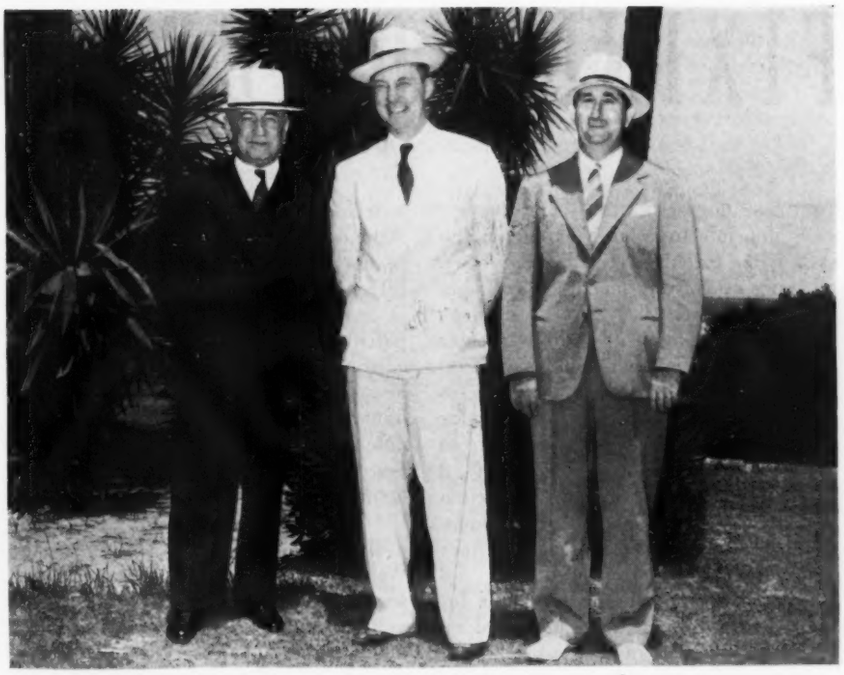
C. Baxter Jones, general counsel, Bibb Mfg. Co., Macon, Ga., was introduced and in a carefully prepared and able address clarified the situation existing between the suppliers and users of industrial power. He reviewed the history of various rate changes, submitted comparisons with neighboring States, and pointed out ways in which savings might be effected. "Your relations with the power company are important relations," he said, "and I would think of enough importance to warrant much closer and more continuous attention than can occasionally be given during a convention program once every few years."

Secretary T. M. Forbes, in a rapid-fire review of the work of the association, high-lighted his report which will appear in detail in their annual publication. He called attention to the picture contest in which a handsome prize would be awarded to the member or guest naming the greatest number of those shown on a picture of the association held in 1924. This picture, enlarged, was on display in the lobby and attracted wide-spread interest. After all entries were in, the prize was finally awarded to one of the best loved members, Albert T. Matthews, who recalled 57 out of the 100 faces shown. Committees were announced by Mr. Forbes and the afternoon was given over to golf, skeet shooting, surf bathing, etc.

THE ANNUAL BANQUET was held Thursday evening, and since this was the 40th anniversary, a gala occasion resulted. Robert O. Arnold, president, acted as toastmaster and carried the affair off in his inimitable and original manner. Among the invited guests, he presented Dr. C. T. Murchison, presi-

dent of Cotton-Textile Institute, Fred Symmes, president American Cotton Manufacturers Association, W. M. McLaurine, secretary American Cotton Manufacturers Association. W. D. Anderson, president Bibb Mfg. Co., Macon, Ga., called the roll of past presidents, relating many humorous incidents in connection with each one present. Mr. Anderson was in rare form and added to his already brilliant reputation as an after-dinner speaker. Golf prizes were awarded the following: For low gross open to all, Russell Gill, first, W. S. Terrell, second; for members only, F. M. Kimble, low net, L. L. Jones, 2nd; low gross, Norman Elsas, Geo. Hightower, 2nd; for guests, Harry Roberts, Ed Merritt, 2nd; for low gross on par 3 holes, Hill Zahn; for nearest the cup with tee shot on No. 3 hole, W. Hill, on No. 5 hole, M. A. Williamson, on No. 17 hole, M. A. Comer; for high gross for all contestants, W. E. Clark, and for most balls lost in water holes Sumner Patrick Vivian Desmond. All visiting ladies received handsome prizes as souvenirs of the meeting; these prizes were the product of mills in the association and made a handsome display in the lobby of the hotel. Paul McKenney in a few well-chosen remarks voiced the sentiments of all members present when he tendered Robert O. Arnold, retiring president, with a valuable watch as a token of respect and esteem.

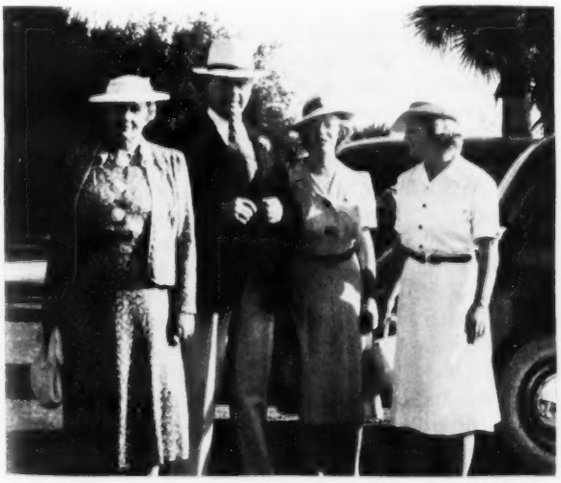
Reports of committees were received at the third session of the association Friday morning. W. D. Anderson was unanimously elected a life-time member of the board of directors and the report of Fuller E. Callaway, chairman of the nominating committee, was adopted in its entirety, the association electing the following officers: president, John A. Miller; vice-president, Geo. P. Swift; treasurer, Julian T. Hightower; secretary, T. M. Forbes. To serve on the board of directors, terms to expire in 1943: Marshall Stone, Landon Thomas, L. E. Bowen, Chas. M. Walker, were named. To fill out the unexpired term of Julian Hightower, A. A. Drake was elected.



New officers—(left to right) President, Jno. A. Miller, Exposition Cotton Mills; vice-president, Geo. P. Swift, Muscogee Mfg. Co.; treasurer, J. T. Hightower, Thomas Cotton Mills

Resolutions adopted included a Declaration of Policy, the objectives being as follows: To provide safe, healthful and congenial employment; that they may pay the highest possible wages consistent with competitive circumstances; that they may earn a fair and reasonable return to both management and stockholders; and that they may contribute, without undue hardship, their proportionate part of the cost of efficient, effective and economically administered governmental services.

In order to carry out these objectives, Congress was urged to remove, by amendment, the discriminations, the inequities and the hardships that experience has proved to be existent in the provisions of the National Labor Relations Act as well as in its interpretation and administration; to follow the recommendations of the Smith investigating committee which so thoroughly studied the practical effects of the present law and its administration upon employer and employee; to restore to the legislative branch of our government, all law-making power and authority, and in so doing to restrict the rule-making powers of administrative agencies to prevent abuses that have resulted under existing conditions.



Albert Matthews arrives with Mrs. Matthews and his two daughters. At right is W. D. Anderson. These two men were made life-time members of the Board of Directors.

THE POOL PARTY at the Casino swimming pool was the final function of the convention. There were approximately 200 present. Water sports, and a floor show, with music by the hotel orchestra, added to the enjoyment of this feature and closed the meeting in a happy mood. The Keystone Quartette of the Pennsylvania Railroad rendered vocal music.

It is interesting to note that Exposition Cotton Mills, Atlanta, Ga., has furnished five of the association presidents, including John A. Miller, recently elected. Others were Chas. B. Tuller, Allen Johnson, P. E. Glenn, and George Harris.

FIXING HOSIERY MACHINES

SUCCESSFUL OPERATION of hosiery mills depends to a large extent on the skill of the machine fixers. Today when all types of knitting machines are more complicated than they were in the past, the need for competent fixers is greater than ever before. In recent years TEXTILE WORLD has published many articles on fixing full-fashioned and circular hosiery machines, but requests from readers for and more information on this subject showed the need for a comprehensive manual covering the fundamentals of fixing, as well as the finer points helpful to experienced men. Accordingly, arrangements were made for preparation of such a manual, and its publication begins in this issue.

The authors selected to assume chief responsibility for writing this manual have long been contributors to TEXTILE WORLD and need no introduction to our readers. Walter A. Simond has had fifteen years of experience as a machine designer and has been granted several patents for knitting and other textile equipment, including the well-known Franklin dye tube; his experience in fixing full-fashioned hosiery machines dates back to 1901. Julian W. Hughes, first became interested in hosiery manufacture in 1912; since then, with the exception of of a brief interlude during and immediately following the World War, he has been connected with seamless hosiery mills in the South.

Preparation of this manual would have been impossible without the cooperation of the knitting machine manufacturers, who are so generously furnishing information, illustrations and advice. The authors and editors wish, therefore, to express their appreciation to those companies for their assistance. It should be pointed out, however, that the manual is being written from the viewpoint of mill men and that the machine builders are in no way responsible for, or necessarily in agreement with, all statements made by the authors.

The manual is so planned as to be of value not only in assisting men who are now fixers to acquire greater proficiency, but also in training knitters and others who aspire to become fixers. TEXTILE WORLD cordially invites readers to send in their comments on the various installments as they appear, in order that the manual may be made as accurate and complete as possible.

CIRCULAR MACHINES—Chapter 1. Checking Sizes and Textures

By JULIAN W. HUGHES

A GOOD FIXER of circular hosiery machines can do much to keep the various departments of the mill running smoothly. He makes certain that his machines are producing the maximum quantity and the highest quality of stockings. He not only has a thorough understanding of the fundamentals of knitting, but he is also tactful and diplomatic, cooperating with and receiving cooperation from the knitters and the heads of the looping and finishing departments. It is not surprising, therefore, that good fixers get good wages.

A fixer should have an anlytical mind and a natural bent for working with machinery. Patience and calmness are assets. There are good fixers who are nervous, impatient, and irritable; but they are constantly laboring under a handicap. While a bright young high school or textile school graduate can immediately be trained to fix hosiery machines, it is usually a risky and expensive undertaking. In the writer's opinion, men who have had at least two years of experience as knitters make better fixers. Such men have had an opportunity to get a working knowledge of the machines, and—equally important—having been knitters themselves, they understand the knitters' problems and know what fixers can do to cooperate with the knitters.

In view of the fact that all types of knitting machines of today are more complicated than in the past, young men with high school or textile school training plus actual knitting experience should make the best fixers and should be most likely to recognize and overcome the problems arising from the changes which are occurring constantly in the art of knitting.

THERE ARE MANY different things that will throw hosiery off size, such as variations in yarn, sudden changes in weather, cams and their controlling levers not working normally, and adjustment screws working loose. Therefore, when a fixer comes on a job, he should "size-up" at the first opportunity. By doing this, he may prevent many misfits which would occur if this task were put off until later.

A good system is for the fixer to instruct the knitters or inspectors—whichever inspect the hosiery at the machines—to lay the first stocking from each machine on the bedplate. The fixer takes the stocking from the bedplate of each machine in rotation and when he is satisfied that it fits the wooden form properly, puts it in its designated place, and continues down the line. With this system, if the fixer is interrupted for any reason, when he gets back to sizing-up, he can see at a glance at which machine he left off. Of course, a fixer must never become so engrossed in any routine, such as sizing, that he forgets to glance over his section occasionally to see if any machines are "flagged."

When sizing hosiery, a first-class fixer is not satisfied that the sizes are correct just because the foot and leg come to the proper length on his sizing form. He looks at the heel and toe pockets to make certain they are neither too full or too loose to fit the form snugly. He notes the texture of the fabric—its regularity of stitch and elasticity. The elasticity of the fabric is an important factor in obtaining a good fit with circular-knit hosiery. The method of sizing illustrated in Fig. C1 is recommended for accurate results. The excess fabric or looper margin of the unlooped toe is lapped and held between the index finger and second finger of the left hand while the hose is being pulled over the form and down taut with the right hand.

Since the purpose of sizing hosiery is to insure good-fitting work on the drying forms in the boarding room, it is important that the fixer's sizing form conform in shape with the drying forms on which the hosiery is to be boarded. Lack of conformity may result in much misunderstanding between the knitting and boarding departments.

Variations in the knitting yarn will cause variations in length, particularly

in women's hosiery. There is little the fixer can do to remedy this, since he has no way of knowing when or where the irregularities will appear in the knitting. Fortunately, however, this defect is not so common today as formerly due to the greater uniformity of cotton and mercerized yarns now available, the extensive use of continuous-filament rayon, and use of high-twist silk yarns.

If a uniform relative-humidity in knitting room is not maintained by means of an automatically controlled air-conditioning system, during damp weather and cool nights the yarn is likely to contract, resulting in slightly shorter stitches. This, in turn, will tend to make the sizes run tight.

The writer is not in favor of loosening up on the stitch every time the humidity is high. If the adjusting screw is not bothered, and the stitch remains the same, the chances are that the excess moisture will evaporate from the yarn when the humidity returns to normal while the goods are in process, and the stitches will likewise expand to their former length. On the other hand, if the stitch is loosened to compensate for this constraction of yarn every time the moisture content runs high, the stitch will be too loose when the goods begin to dry out. This probably accounts for the fact that fixers who size according to the weather usually have more trouble from incorrect sizes than fixers who do not readjust their machines with every change in humidity.

It is important for a fixer to know the behavior of different types of yarns in dyeing. If the proper tension is not applied to the various yarns during knitting, the hosiery will be distorted after dyeing and will not fit the drying forms. When silk and mercerized yarn are knit in the same fabric, the silk will loosen up during degumming and dyeing, while the mercerized yarn contracts slightly. Accordingly, it is necessary to knit the silk yarn with more tension than the mercerized yarn to compensate for this. Ordinary cotton yarns require less tension than lisle or mercerized yarns; viscose rayon requires less tension than the cuprammonium type; and cuprammonium rayon requires less tension than acetate rayon. Only by experience can the fixer determine the exact amount of tension which will give the best results with the various yarns.

The size of the hosiery may be thrown off by any adjustment which has been made that affects the yarn tension, the operation of the cams and needles, or the sinkers, jacks, or dial. Therefore the fixer should check the first stocking knit after any such adjustment is made. If the stocking is off size, the condition should be corrected immediately.

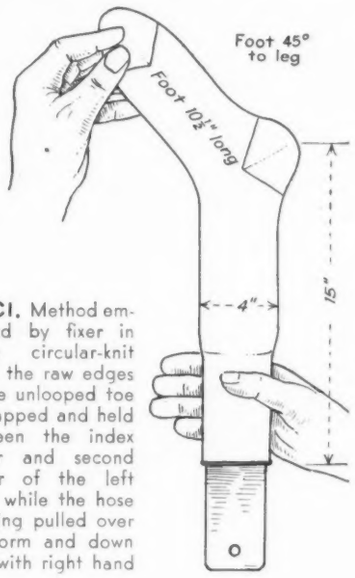


Fig. C1. Method employed by fixer in sizing circular-knit hose: the raw edges of the unlooped toe are lapped and held between the index finger and second finger of the left hand while the hose is being pulled over the form and down taut with right hand

When several machines are changed to knit a different style, and especially when different counts and materials are involved, no machine should be allowed to start production until the fixer is satisfied that it is knitting to the proper size and texture. The practice of setting up a number of machines to knit a new style, starting the machines, and arriving at the correct size later is responsible for the large amount of poorly fitting hosiery produced in some mills after every change in style. The interruption of production to make certain that each machine is knitting the correct size is more than offset by the smaller number of misfits which have to be sold as seconds.

At regular intervals a stocking should be taken from each machine. A safety pin made of non-corrosive metal and with the number of the machine plainly stamped an it is attached to the top of the hose. The stocking is then dyed and boarded in the regular way. By examining these samples after boarding, the fixer can see just what each individual machine is doing. Tests of this sort should be carried out at least once a week, and some mills find it advisable to make them once a day.

(The next installment of this series will discuss the adjustment of the stitch to insure proper elasticity.—*Editor*)

FULL-FASHIONED MACHINES—Chapter 1. Erection and Realignment

By WALTER A. SIMOND

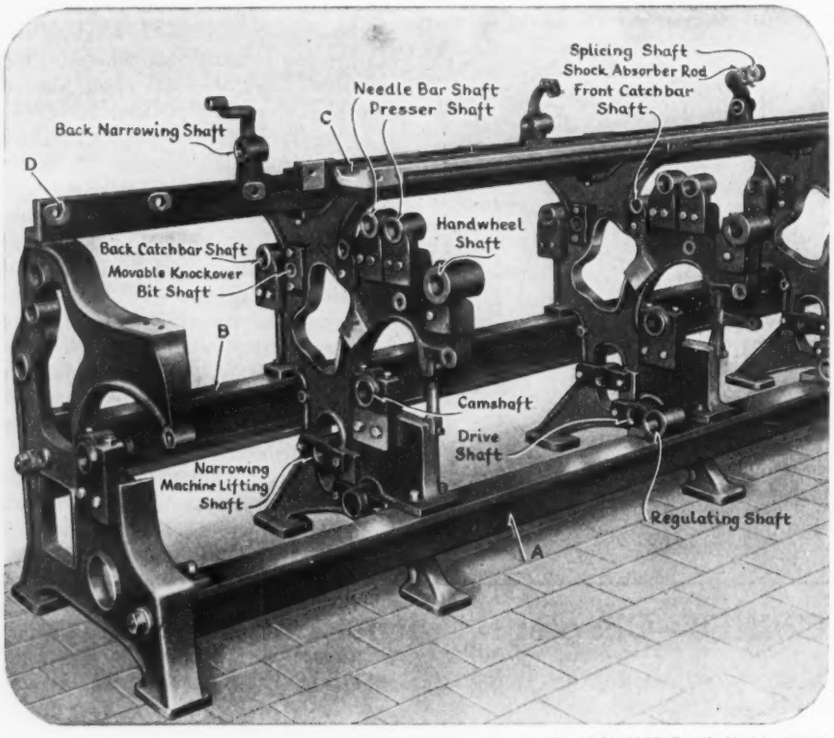
THE FRAMES of full-fashioned knitting machines ought to have more attention than they usually receive. Great care is exercised in erecting the machines, in order to obtain absolute alignment; therefore the machines ought never to be erected except on rigid floors. Any misalignment is sure to cause excessive friction in the bearings, and a consequent overload of the motors. Settling of the floors during operation will throw the needles off center in the sinker heads. This, in turn, will probably cause dropped stitches in the narrowings and, sometimes, broken needles. When the floors are not firm, the machine builders can supply channel iron beams to lay flat side down under the feet of the machine. These beams prevent sagging to some extent, but have the disadvantage of making it more difficult to clean the oil pan under the machine.

Since it is almost impossible to move a completed machine without changing its alignment, its position in the room needs to be carefully determined before erection is begun. Machines should always be set parallel to a chalk line on the floor which extends from one wall to the opposite one. From this line, equal distances may be measured to each end of the machine. When machines are to be set parallel to each other, it is more accurate to measure to the floor line than to measure to another machine. Where machines are to be set in alignment, it is unwise to measure to the wall, which is seldom absolutely straight. When the wall is irregular, it is advisable to have a surveyor establish the floor line. Be sure to have the backs of the machine easily accessible. To allow ample room for working space and tables, Textile Machine Works recommends a distance of 3 ft. 6 in. between the handwheels of leggers facing each other, and 4 ft. for footers.

The best practice is to have a galvanized-iron oil pan made to protect the floor. The sections of the pan may have rods of about ⅜-in. diameter rolled in the long edges of the sheets and at the ends of the pan. These rods should project about 3 in. from the end of each section into the adjoining one. After the pan is assembled on the floor, the sections should be soldered together to prevent leakage of oil or other fluids. The weight of the machine is sufficient

to hold the oil pan in position, but it needs to be accurately placed by measurements to the floor line.

Inspect the front and back beams for straightness; they may have been strained in shipment or dismantling. The following method for making this inspection is recommended by Textile Machine Works: "Fasten a string along the finished surface of the beam, put a $\frac{1}{16}$-in. pin under the string and against the finished surface of the beam at each end, then use a like pin and check the distance between the string and the finished surface throughout the length of the beam. If the beam is not straight, straighten it by peening. When doing this, however, make certain that no peening is done on a finished surface; also be sure to peen on the side of the hollow so as to lengthen that side. Should it be found that there is a hollow on a side having a finished surface, bump the beam over a block of wood to straighten it."



Copyright, 1935, Textile Machine Works

Fig. F1. Foundation of full-fashioned knitting machine

ERECTING FRAMES. The difficulty of keeping these long frames (40 to 50 ft.) in perfect alignment during erection is due to the continual and uneven yielding of the floor as the weight of heavy parts is added to the machines. Best results can only be obtained by erectors who are specially trained for this work. However, since the maintenance of alignment is just as important as its attainment in erection, the machine fixers ought to know how the frames are erected. The method is as follows:

1. Lay all the sections of beams *A* and *B*, Fig. F1, in order on pieces of board in the oil pan to hold it in place.

2. Lay out the positions for the front feet of the end frames and of the intermediate frames; i.e., indicate the positions for the front edge of the feet on the oil pan by means of a chalked line.

3. Set the sections of the back beam on edge. Level them lengthwise with shims under their ends to find the high places in the floor and the approximate thickness of the shims required under the feet of the frames. Use an accurate metal level of good length.

4. Place the first sections of beams *A* and *B* on blocks to bring them nearly up to their places on the frames. Place the end frame on the oil pan at the position indicated by the chalk marks. Next bolt the beam sections to it, and then to the frame section at the other end of the beam sections, but not too firmly until both beams are level lengthwise and crosswise. To level, set a small jackscrew under each beam near the frame, raise the beams a little high and shim under the frame feet, tighten screws securely, and lower the frame.

5. Continue with the other sections of beams *A* and *B*, and their end frames, until these beams are complete and level. Also, check the location of the machine by measuring to the floor line from the finished edge of one of the beams, and adjust as needed.

6. Draw a fine line—a strong fishline is preferred—taut across the whole length of back of the machine and a little below the back edge of beam *B*. Test the alignment of the machine with the $\frac{1}{16}$-in. pins, as for the inspection of the beams, and adjust where needed.

7. Set the intermediate frames between the beams, turn them into position, and fasten firmly; then place shims under their feet so the weight will not cause the beams to sag. Light tapping on the feet with a hammer will help to settle the shims into place.

8. Lay the section of center bed *D* in place, and check and adjust the entire frame until it is level and straight before putting in the pins and screws to fasten the center bed. When the frame is in perfect alignment, these holes for the pins and screws will exactly match. It is for this reason that all heavy parts should be laid in their approximate position, and the levelness of the frame checked and adjusted before the parts are secured to the machine frame. Special care should be taken when the motor and Coulier motion are added, as they are offside and create a torsional strain on the frame of the machine. The old method of drawing a taut line above the frame sections is not recommended, since it will doubtless sag in the length of the modern machines.

REALIGNMENT. Sometimes the vibration of the floor under a level beam will cause the shims to work out from a machine foot when the machine is running. This may be prevented by drilling two well-spaced holes through the iron foot, and putting round-head screws through the holes—No. 10 is a good size—into the shims, being careful that the screws are not long enough to puncture the oil pan.

After new machines have been running a few days, it is often necessary to re-center a few heads at the ends of the machines, because of slight changes in the frames. Usually, however, only the needle bars need to be moved.

The weight of new machines will sometimes change the level of adjacent machines, and such machines should be checked for levelness before any other parts of the machines are moved.

A periodical check lengthwise of the back beam *B* with a level, shimming where it has sagged, and then checking crosswise and putting shims under the front feet of the machine where needed will prevent a lot of trouble that will otherwise occur in the operation of full-fashioned knitting machines.

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(The next installment of this series will discuss shafting and front-bed assembly.—*Editor.*)

Novel Finishes on Cotton Fabrics

Linen, parchment, and organdie effects produced by ethylene oxide treatment

USE OF ETHYLENE OXIDE to produce novel finishes on cotton fabrics was described in a paper prepared by L. G. Lawrie, R. J. W. Reynolds, and D. Ward for presentation at the Symposium on Chemistry of Cellulose, which was to have been held Sept. 21 and 22, 1939, in Manchester, England. The following description of the methods employed and results obtained is abstracted from the January issue of the *Journal of Society of Dyers & Colourists*. Finishes obtained, as can be seen from the accompanying illustration, include all-over organdie and linenized effects and printed window-pane and damask effects. Two methods for carrying out the process appear to be suitable for commercial use—treatment of the cloth with a solution of ethylene oxide in carbon tetrachloride or with gaseous ethylene oxide. In either process, the fabric is first treated with caustic soda.

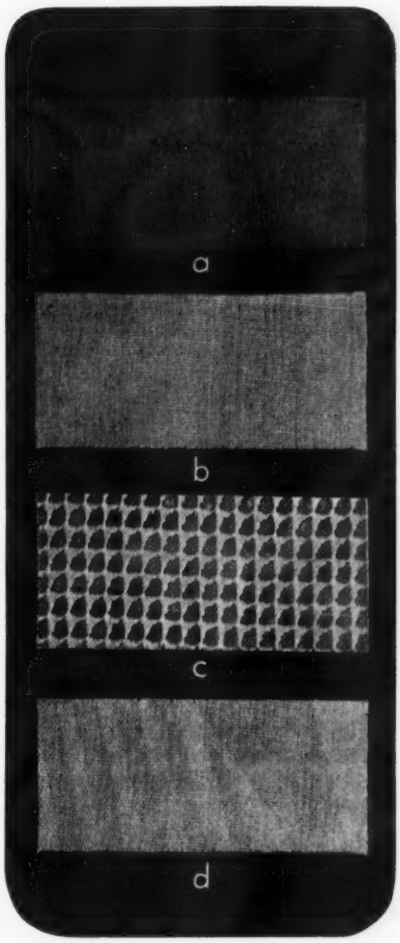
To produce an organdie the cloth is impregnated with a 50 to 60° Tw. caustic soda solution; squeezed or extracted to contain about twice its weight of liquor; treated with 35 to 37% of ethylene oxide on the weight of the cloth, using 100 gal. of carbon tetrachloride to 40 lb. of cloth; soured in a 10% brine solution containing 1% of sulphuric acid on the weight of the goods; and washed.

To produce a linenized effect the cloth is impregnated with an 11% caustic soda solution; expressed to contain about its own weight of liquor; treated with 1% ethylene oxide, using 100 gal. of carbon tetrachloride to 48 lb. of cloth; soured in 1 to 2° Tw. sulphuric acid; and washed.

To produce a highly transparent, parchmentized effect the cloth is impregnated with 50 to 60° Tw. caustic solution; expressed to contain about 1½ its weight of liquor; treated with 40% of ethylene oxide, using 100 gal. of carbon tetrachloride to 48 lb. of cloth; soured in brine and sulphuric acid; washed; dampened; and calendered with a plain friction, or schreiner calender. The transparent effect is destroyed by washing, but is restored upon re-calendering.

To produce a window-pane effect the cloth is printed with 30% of caustic soda in British gum; treated with 60% of ethylene oxide on the weight of the area printed, using 100 gal. of carbon tetrachloride to 29 lb. of printed area; soured in brine-sulphuric acid; washed, dried; dampened; calendered.

To produce a printed damask effect the cloth is printed with caustic soda and gum; treated with 20 to 60% of ethylene oxide in carbon tetrachloride according to effect desired; soured with brine and sulphuric acid; washed.



Several types of finishes produced on cotton fabrics by eythylene oxide: *a*, organdie effect; *b*, linenized effect; *c*, window-pane effect; *d*, printed damask effect

TREATMENT with the ethylene oxide can be carried out in an open width kier or other suitable closed vessel, and pressures up to 9 lb. per sq. in. at 122° F. have been employed. Under those conditions the reaction is complete in 2 hr. Experiments indicate that similar results can be obtained by use of gaseous ethylene oxide in equipment of the continuous ager type. The processes have been patented in England and other countries.

The ethylene oxide treatment imparts a pink or orange-pink tint to cotton. This can be easily removed by immersing the cloth in chemic at approximately pH 4.5 and washing.

The treatments described have little effect on the strength of the cloth, giving an increase of about 5% in the case of the linenized effect, and a slight decrease in the case of the organdie finish. With still more intensive treatment, a critical stage is reached, at which there is a rapid falling off in strength. Use of a brine sour in conjunction with the intensive treatments is for the purpose of speeding up neutralization and thus preventing solubilization of the cotton by caustic soda formed on the surface of the cloth.

Ethylene oxide treated cotton has an enhanced affinity for direct, sulphur, and vat dyes; but penetration of the dye is poorer. It also can be dyed with certain acetate colors. Dyed fabrics can be subjected to the ethylene oxide treatment, provided the dyeings withstand the effect of the caustic soda and the souring and bleaching solutions.

Ethylene oxide is a colorless liquid having a boiling point of about 50° F. It is usually shipped in cylinders under pressure. As it is toxic and as it forms explosive mixtures with air, care must be taken in using it. If the cylinders have been stored at temperatures above 68° F., they should be cooled before the liquid is measured out. Measuring and mixing should be conducted in well-ventilated rooms and with no naked flames in the vicinity. Equipment in which the ethylene oxide treatment is carried out should be gas-tight. A satisfactory sealing medium consists of a non-drying jelly made from 1 part gelatin, 1 part glycerin, and 1 part sugar dissolved in a sufficient amount of warm water to set to a thick, firm jelly upon cooling.

One of the features of the ethylene oxide process is the wide variety of effects which can be obtained.

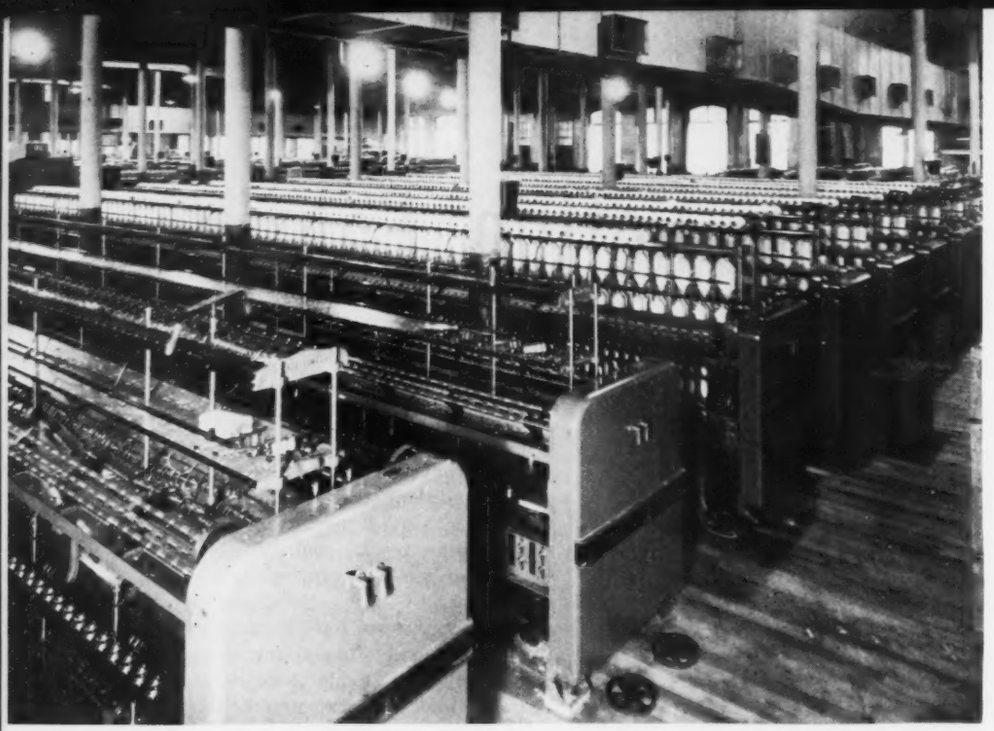


Fig. 1—Nearly 90,000 new long-draft spindles like these will soon be in operation. First two frames are in process of being erected; others run full-blast

90,000 New Spindles

Are nucleus of Pacific Mills' program of modernization at Columbia, S. C.

IT IS NEWS when a mill buys nearly 90,000 brand-new, ball-bearing, spindles with paper-tube bobbins. And it's even bigger news when, in addition, the same plant completely revamps its preparatory department, spending some $1,250,000 on equipment. Pacific Mills, Columbia, S. C., is completing just such a program and TEXTILE WORLD presents herewith the first published story of the modernization in process at Pacific's huge Hampton Division. The work began around the first of the year and will be completed within a few weeks after this issue is distributed.

The majority of the new machinery, supplied by Saco-Lowell Shops, is being installed in the big Olympia plant, although considerable work is going forward also at Granby. Virtually all preparatory equipment in the Olympia plant, most of which was installed about 1900, is being junked as fast as possible. New frames are going in at the rate of twelve or more a week. Production schedules have not been interrupted, which in itself is no small engineering triumph. As can be seen in Fig. 1, two frames are in process of erection, while others operate full-blast. A close-up of the new machines is shown in Fig. 2.

The first department at Olympia to feel the push of modernization was the opening room, which has been enlarged and equipped with considerable new machinery. One of these revamped opening rooms is illustrated in Fig. 3. Five new Saco-Lowell No. 7 feeders equipped with fully-inclosed individual motors and exhaust fans have been installed. Three feed tables were added. Two No. 11 condensers were attached to the old No. 12 openers. Four new No. 12 openers, equipped with 24-in. Buckley beaters and No. 11 condensers, were installed. All opening equipment is fully automatic, with Saco-Lowell starting and stopping controls located strategically between opening and picker rooms. Individual General Electric motors operate the machinery.

In the picker room, one plain Lummus rake distributor was installed, along with Knowlton & Newton return air filters.

In the card room Saco-Lowell vacuum card strippers were applied to 192 machines. The remainder of the cards had previously been equipped with this system, which includes condensers and Sturtevant fans. Eventually more cards will be added to give slower cleaning.

Old drawing frames were junked, and 140 deliveries of new Saco-Lowell controlled-draft, 5 roll, drawing were installed in the card room. Ten sliver lap machines also were set up in this room. Fig. 5 shows some of these.

THE SPINNING ROOM at Olympia presented a strange picture to the writer when he visited it some weeks ago. At one end of the room were new high-speed spinning frames in full operation, in contrast to 40-yr. old machines at the other end. Between the two was

Fig. 2—Close-up of new paper-tube spinning in operation

an area which might have been a European battlefield, judging from the broken and twisted metal which littered the floor. Several strong negroes were busily engaged breaking up the old equipment with sledge hammers and throwing it out the windows (Fig. 4).

When all spinning equipment is installed at the Olympia plant, there will be 72 warp spinning frames, 3¼ gage, with 264 spindles each, and an equal number of the same gage, with 312 spindles each. Warp spinning has No. 3 ball-bearing, Saco-Lowell spindles with wooden tops for paper tubes. The frames are tape driven, equipped with 10-in. ball-bearing cylinders, Fafnir cylinder bearings, SKF tape tension idlers, 1 13/16 in. rings, No. 1 flanges, double creels, and traversing thread boards. This spinning is driven by 10 hp. G.E. motors and Rockwood drives with bases on the floor.

In addition, there will be 72 filling frames with 288 spindles each, and 72 with 320 spindles each. All new filling

frames are of 2¾ gage, equipped with the Saco-Lowell-McMullen spindle, noted for its large oil reservoir and tempered blade. In this instance, 7½-hp. G. E. motors, and Rockwood drives are used. Other extra equipment is the same as for the warp spinning.

The roving department has been re-equipped with 36 frames of 136 spindles each, and a like number of 148 spindles each. These are the latest type Saco-Lowell J-3 long-draft 8x4 slubbers, equipped with a double line of lifting rolls. Other integral parts consist of spur-gear compounds and latest chain spindle and bobbin drive; the new Saco-Lowell G38 top cones are utilized. These frames are driven by G.E. motors and switches, in combination with Allis-Chalmers Texrope equipment of the twin-disk and V-belt type.

American Paper Tube Co. supplied the tubes for the warp spinning. Bowen-Hunter Bobbin Co. is furnishing 230,000 new wooden bobbins for the filling spinning.

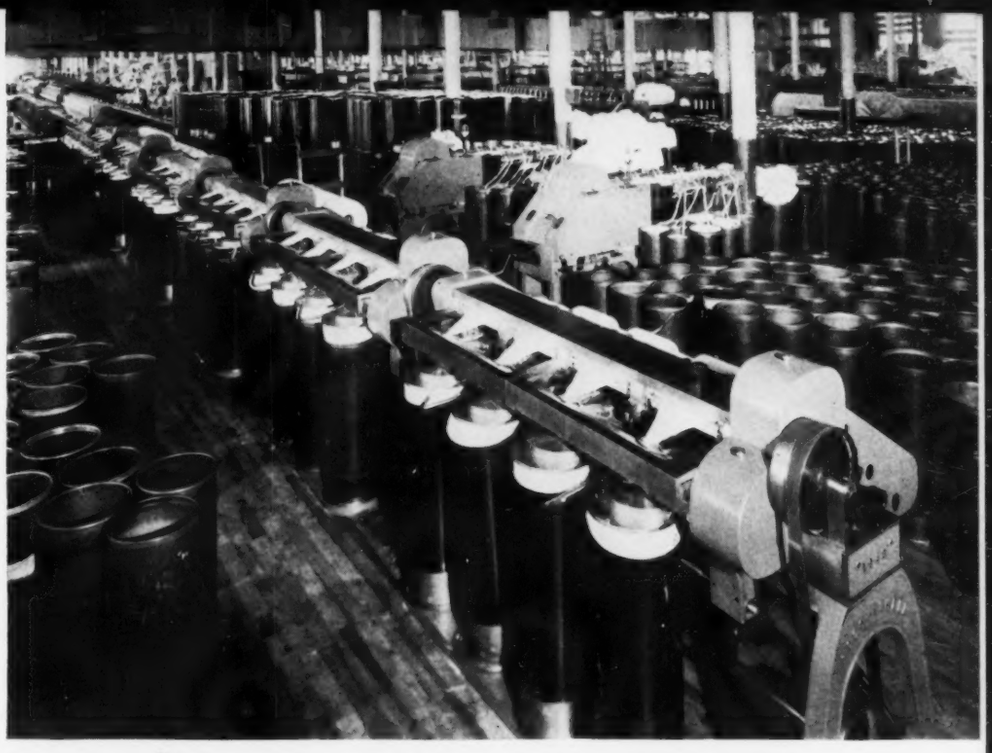


Fig. 5—Several processes of drawing have been eliminated with this 1940 model controlled-draft equipment. In the background, new sliver lappers

Fig. 4—A sledge hammer makes quick work of old frames, smashed up on the very floor where they have served faithfully for 40 years

At the present time nothing is being done to the slashers, but eventually they will be replaced with new high-speed equipment. Spooling and warping also are in good condition and no changes will be made there for the present.

Three years ago, 680 new Draper Model X looms, with individual motor drives, were installed at Olympia. In addition, old looms were thrown out and replaced with good Model E looms transferred from other plants.

Olympia mill is air-conditioned with Carrier central-station equipment, one of the earliest installations of its type ever made in a textile mill.

AT GRANBY MILL, the opening room is being enlarged and revamped along the same lines as is the Olympia opening room. Two new feed tables have been added; and two No. 12 lattice openers, with Buckley beater and two No. 11 condensers, were installed. One new No. 2 screen section also has been put into operation in this department. In the card room, 160 cards have been equipped with Saco-Lowell vacuum stripping similar to that recently applied to the cards in the Olympia plant. No further changes were made in the card room, since this department was remodeled some four or five years ago. At that time old drawing was replaced with Saco-Lowell, 5-roll, controlled-draft drawing.

The spinning frames at Granby, being fairly new, have been changed over from regular- to long-draft. There are 55 filling frames of 272 spindles each, 2¾ gage. Auxiliary equipment includes Parks-Cramer overhead cleaners. Regular wooden bobbins are used on filling frames.

A total of 450 motors of all kinds was supplied by General Electric Co. There are 144 7½-hp. motors driving filling frames, 144 10-hp. motors operating warp frames, and 72 3-hp. motors on roving frames. Other new motors are located in drawing, picking, and opening departments. All these motors are of the open screenless type, designed to expel lint and cotton.

Switches are of the combination magnetic and fusible disconnect type, with improved fuse clip designed to prevent blowing out from abnormal heat. A great deal of the existing wiring and electrical equipment has been utilized in setting up the new machinery, although one new feeder from the switchboard was installed. Electrical engineering work was handled by White Electric Construction Co., Atlanta, Ga.

Olympia plant will continue to manufacture print cloths; Granby is set up for broadcloths and twills.

Fig. 3—Modern opening rooms are features of Olympia and Granby plants

Cotton Mill Fires

Such fires on increase; where and why they occur; suggestions on prevention

By W. F. FARLEY
Engineer, Associated Factory Mutual Fire Insurance Cos.

CONTROL OF FIRE has been a major problem of mill men from the earliest days of large-scale cotton manufacture. A hundred years ago, before the introduction of effective fire prevention, the fire hazard in cotton mills was so serious that owners paid for their mills in the form of fire insurance premiums about once every seven years—a serious item of overhead expense. With a fire once started, lack of automatic fire protection and of proper cut-offs between rooms, and existence of open stairways, elevators, and beltways caused many a mill to burn to the ground. The processing of an easily ignited fiber in close conjunction with many possible ignition sources — mechanical; human; and, more recently, electrical—has always presented to mill owners and personnel, and to industrial fire-prevention engineers, one of their greatest problems. How successful have they been?

Fire prevention has made great advances in all classes of industry since the early days. Thus, in the cotton industry, better construction, segregation, and safe arrangements of occupancies; more effective fire protective equipment; and improved organization have all contributed to the safer mill of today. Experience has been a hard but effective teacher. A large fire now occurs in a modern cotton mill only when someone has blundered, as by shutting or leaving shut an important sprinkler controlling valve.

The records of the Factory Mutual Fire Insurance Cos. show that whereas cotton mills represent approximately 10% of the total amount of insurance, they accounted for 15% of the total fire loss and 25% of the total number of fires in the 5-year period 1935-1939. In the last 25 years, three of the five losses which exceeded $500,000 occurred in cotton mills. In this longer period, while the number of spindle hours has decreased slightly, there has been a definite upward trend in the number of cotton mill fires per unit of value, and the increase in more recent years has been occurring at an accelerated rate. The average damage per fire is only about $300, but any fire can become serious. Obviously the cotton mill is still a greater potential fire hazard than the average industrial plant, and the increasing number of fires raises questions of safety which merit serious consideration by the industry.

WHERE DO FIRES OCCUR in cotton mills? Some originate in the power end of the plant; some in offices, repair shops, and other areas common to all classes of industrial property; but by far the greater number are in process occupancies, and a smaller number in storage areas. The average loss per fire is largest where high values in stock or goods are present, as in storage areas or cloth rooms, while the greatest number of fires occur in manufacturing areas, where much moving machinery is in close association with loose cotton. An analysis of 2,560 fires in cotton mills appears in the accompanying table.

There are three major causes of fires in storage areas: (1) spontaneous ignition, either in rubbish or in the stored materials; (2) smoking; and (3) electrical defects, usually in the lighting system. Sparks in recently ginned baled cotton cause a moderate number of fires. Fires in stored bales, rolls, or loose stock frequently spread and cause increased loss, particularly if the material is placed in such large and high piles that the water discharged from automatic sprinklers or hose streams cannot reach the seat of the fire burrowing into the pile. A fire of this nature is very difficult to fight and results in excessive damage by water and smoke, as well as by fire, not only in the immediate, but also in adjoining areas.

Where large values are stored, special attention should be given to the elimination of all possible ignition sources, to the subdivision of values, and the avoidance of conditions which make fire fighting difficult. It is also

ANALYSIS OF 2,560 FIRES IN COTTON MILLS, 1935–1939

(In order of aggregate loss)	*Per Cent of No. of Claims*	*Per Cent of Total Damage*	*Average Damage per Fire*
Openers and pickers	48.79	33.23	$236
Cloth or yarn dryers	1.33	11.70	3,047
Cloth or yarn storage	.78	11.62	5,148
Baled cotton storage	1.95	7.71	1,365
Cotton waste storage	2.58	7.28	976
Carding	5.12	4.25	287
Ring spinning	8.24	4.13	173
Cloth or yarn finishing	1.44	3.01	720
Jacquard weaving	22.66	22.89	377
Drying loose cotton, waste, etc.	2.15	1.78	287
Weaving — plain looms	12.85	1.70	46
Napping	2.50	1.66	230
All other (13 classes)	9.61	9.04	326
Totals and average	100.00	100.00	$346

important to keep storage values away from manufacturing hazards.

More than one-third of the fire damage resulted from opener or picker fires. Where no large amount of stock was exposed, the average damage was only $119; but where much cotton was present in the form of bales, laps, or loose stock in bins, the average damage was $695. Thus the exposure of value to hazard becomes an important factor in increasing loss.

The predominating cause of opener-picker fires is recorded as foreign substance in stock. It is not always possible definitely to determine that foreign substance was the cause; but when a fire flashes while cotton is passing through a machine, or appears at a condenser after coming from the openers, it is quite safe to assume, after eliminating such possibilities as electrical or smoking, that a spark was caused by foreign metal striking machine parts, by parts out of adjustment striking other parts, by matches in the stock, or by friction either between machine parts or between parts and stock accumulated on the machine.

Although some opener-picker fires must be expected, most of them can be avoided by using all reasonable means to prevent pieces of metal or matches from passing through the machinery, and by keeping machinery in good repair and adjustment. While some low-grade baled stock contains considerable foreign metal, requiring special treatment, tie buckles and short ends of ties can be kept out of the cotton by well-regulated bale-opening procedure and good housekeeping in the opener room. Soft waste returned from carding or spinning rooms may contain foreign metal and should be watched. Regular overhauling of machinery will also help to prevent these fires, as well as produce better laps.

The second largest group of fires occur on cotton looms. Friction and electrical are the two main causes. Friction on looms frequently appears as a hot treadle roll, that much-abused bearing that can be neglected in so many ways. Electrical equipment attached to a loom is bound to be shaken to pieces sooner or later and cause a short circuit unless well maintained and carefully watched.

Excessive lint, due to infrequent cleaning, provides ready fuel which is ignited by the smallest spark or overheated metal. Longer warps mean longer runs without thorough cleaning or overhauling, and more lint on machines and surroundings.

Elimination of fire in manufacturing areas in general, where values are spread out and fires are readily handled, resolves itself almost entirely to the elimination of fire causes. Outside of opener and picker rooms, most cotton fires are of electrical origin. When electric drive was introduced into cotton mills, a new fire hazard which was to prove of major importance was established. Appreciating the danger of bringing electric power into close association with cotton, mill owners and engineers saw to it that the installations were of the best. But cotton mill equipment is subject to hard usage. Vibration is often severe. Humidity, exposure to mechanical injury, and dust and dirt all have had their effect, over the years, on the electrical apparatus of cotton mills. In some instances old age is a factor, and insulation has become weak and brittle. Machinery has been speeded up in some locations, resulting in overloading of electric drives and particularly of motors. Switches have become worn and perhaps many are obsolete, insulation on wiring has become damaged, temporary wiring is often neglected, lights are left without guards, fuse-box covers are left open—these and many similar defects have all helped to put "electrical" near the head of the list of fire causes in cotton mills today.

Friction is also a leading fire cause. Moving parts become worn or get out of place and rub against other parts or objects. Bearings heat up as a result of neglected lubrication, obstructed oil passages, or uneven wear. Belts slip, pulleys work loose, and stock winds around shafting or accumulates between moving surfaces. The more that machinery is in use, the greater is the possibility of friction, and consequently the greater is the danger of fire. Principal causes of fires in various departments are shown in the accompanying charts.

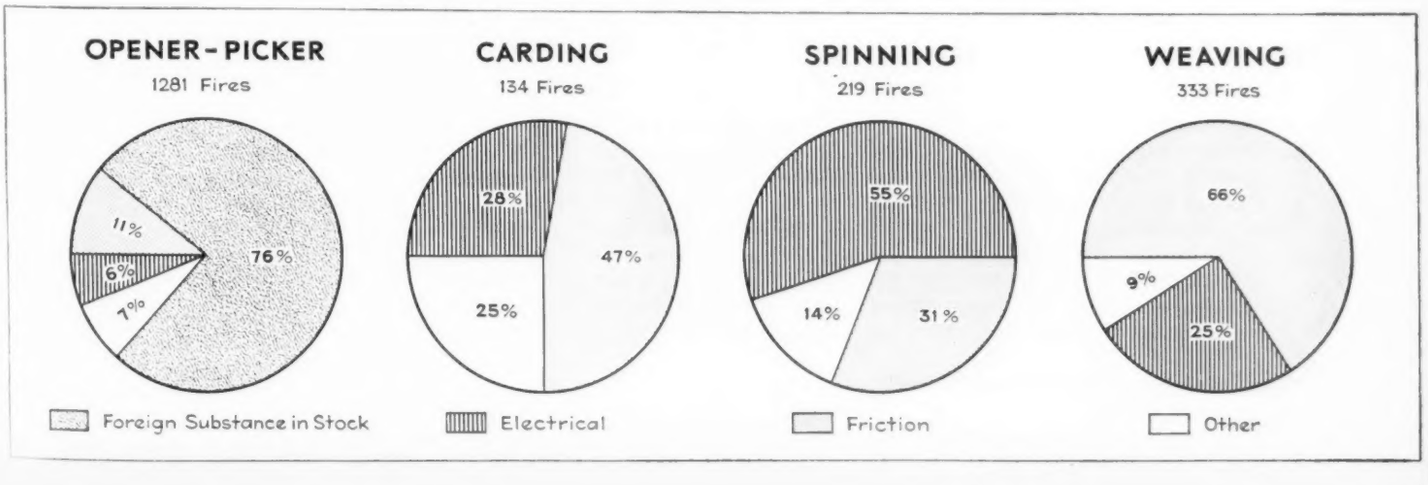
LACK OF MAINTENANCE is proving to be a major contributor to fires in cotton processes. Most electrical fires are maintenance losses. Similarly, friction which causes fire does not occur where there are adequate lubrication, repair, or adjustment programs. Fire starts and spreads on dirty machinery more readily than on clean.

Cotton-mill fires can be and are being prevented. Many cotton mills report few if any fires. Consider the experience of a group of southern mills. Previous to 1937, these mills were having fires at the rate of 40 to 50 per year. Several small fires developed into serious losses. Something had to be done. A fire supervisor was appointed, whose duty it was to follow up every fire, find out what caused it, and then advise means for preventing its recurrence, either in the same location or elsewhere. He was given authority needed to enforce his recommendations. What happened? The fires stopped almost overnight. Since 1937 the seven mills in this group have reported only a dozen small fires per year—a noteworthy improvement.

Cotton mill fires are not inevitable; they should not be taken as a matter of course.

A careful study of each fire and the elimination of conditions that caused it will produce surprising results. A thoroughly instructed plant personnel, under competent leadership, will ensure proper handling of fire emergencies, whether they occur while the plant is running or while it is idle. Thoughtful management will avoid occupancy conditions that can result in a large fire. Good maintenance will stop the small fires—which too often grow into large losses and interrupted production. Insurance replaces lost property; but it will not pay for lost orders, lost jobs, and lost goodwill.

Charts show principal causes of fires in various cotton-manufacturing operations



Bleaching Pile Fabrics

Methods which give good results on cotton, rayon, mohair, and other types

By JOHN C. KOPASZ

VARIOUS PROCESSES are employed for bleaching pile fabrics. Thus, on certain types of goods, sodium peroxide, sodium perborate, potassium permanganate, and sulphurous acid can be used. The methods most commonly employed, however, are the sodium hypochlorite process and the hydrogen peroxide process. The following discussion will be limited to these two methods. Bleaching is generally carried out in wooden or cement equipment, and the usual precautions necessary with other types of fabrics are necessary—for example, all water used in bleaching must be free from iron if satisfactory results are to be obtained.

As rayon is usually fairly white of itself, bleaching of rayon-pile, cotton-back fabrics, is in most instances for the purpose of whitening the back and thereby enhancing the general appearance of the goods. The following typical procedure for bleaching this class of fabrics is based on a 1000-gal. bath. This volume will take care of 600 to 800 lb. of cloth, or as much as will fill the box comfortably without overcrowding. Sufficient sodium hypochlorite solution is added to the bath to give a concentration of from 2 to 2½ lb. available chlorine to each 100 gal. of liquor. Bleaching is carried out at room temperature for ¾ hr., with the pieces sewn in double lines, rope form. After a cold-water rinse, 7 qt. of cold commercial hydrochlorite acid is added to the bath and the goods are scoured for a few minutes. Next they are given two fresh waters, and finally a warm bath with 12 lb. of olive oil soap and 2 lb. of soda ash, at 120° F. for 15 min. Soaping can be dispensed with at times, and sulphonated oil or castor oil used instead. If it is necessary or desirable to blue a lot, a violet dye, such as Acid Violet 4BL or 6BN or Methyl Violet, can be used. Ordinarily use of a pure blue dye will give to the fiber a cold, greenish tinge that a violet will not, although blues are still used extensively in some plants.

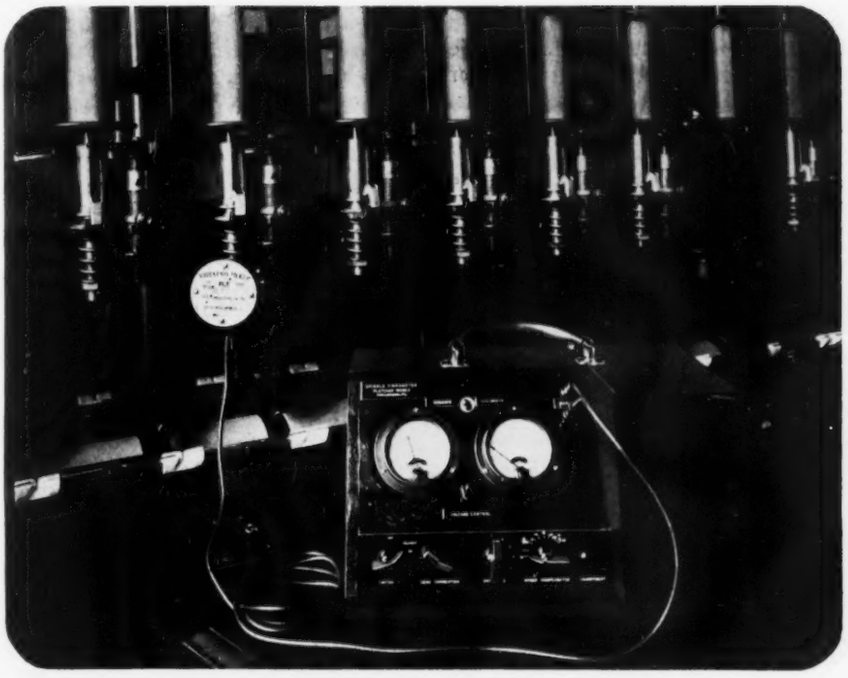
COTTON PLUSHES usually are bleached in rope form. The following typical procedure is for goods that have not been previously scoured. The amounts given are for approximately 1,500 gal. of water, which should be sufficient for from 16 to 20 pieces, weighing in the neighborhood of 1,000 lb. Treat with 100 lb. of caustic soda at 212° F. for ½ hr.; give two rinses with water at 120° F. for 10 min. each; add sufficient sodium hypochlorite solution to bring the bath to 1½° Tw. Run for ½ hr. at 90° F.; rinse for 10 min. with water at 90° F.; add 11 lb. of sodium bisulphite and run 15 min.; rinse for 10 min. with water at 120° F.; give two 10-min. rinses at 90° F., add 4 lb. of tri-sodium phosphate and 14 qt. sulphonated oil and run 10 min. at 90° F.

The bisulphite can be replaced with any other good antichlor. The final bath is merely to soften the goods and can be omitted without any ill effect on the shade of white. The hypochlorite solution can be purchased in concentrated solutions or made from liquid chlorine. It can also be prepared as follows: Paste 50 lb. of chloride of lime with cold water and bring up to 50 gal.; add to this a solution consisting of 50 lb. of soda ash (58%) in 50 gal. of boiling water, mixing well; let stand overnight; drain or siphon off the clear solution, which is ready for use.

Mohair pile fabrics are bleached open width, generally in cement boxes. It is advisable to avoid prolonged steaming of goods that are to be bleached, as a semi-permanent yellowing of the mohair occurs that is difficult to overcome on whites. The following typical procedure is for bleaching four pieces weighing approximately 200 lb. in a bath of approximately 400 gal. Make up a solution of 18 lb. sodium phosphate, 8 lb. trisodium phosphate, 100 lb. hydrogen peroxide (100 volume), and 5 lb. sodium silicate. Run the pieces in this solution for 2 hr. at 125° F., open width; add 6 lb. trisodium phosphate and 25 lb. of hydrogen peroxide; run another 20 min. to insure a thorough mixing, and then stop the reel. The seams are then undone and the pieces submerged; clean wooden planks or bars can be so placed as to keep the pieces immersed. The goods are left overnight, or from 10 to 12 hr. in this bath. Then the piece ends are re-sewn and the goods run for 2 hr. at 130° F., open width. Next pull plug and wash in a warm water with 8 lb. olive oil soap and 2 lb. soda ash at 110° F. for 20 min. Rinse again for 10 min. in a bath containing 2 lb. tri-sodium phosphate at 120° F. Finally give three rinses in water at 120° F. for 10 min. each, and one cold-water rinse.

SILK PILE FABRICS rarely require bleaching, but tussah pile goods are called for at times in light shades. Tussah is more difficult to bleach and requires more care than any other fiber. A pure white cannot be obtained by any ordinary methods. In addition to the pronounced yellow-brown color of the fiber, tussah silk contains more impurities and is more resistant to the action of bleaching agents than ordinary silk or mohair. Light shades, such as ivory or eggshell, generally represent the closest approach to a white that can be expected. Even in bleaching to these shades, a too vigorous or prolonged treatment will seriously weaken and deluster the fiber. Bleaching at high temperatures even in weak solutions will render the fiber stiff and brittle. The sulphuring process can be used, but the silk returns to its original tint far too soon. Best results are usually obtained with peroxide.

In the peroxide process, tussah fabrics are generally handled on wooden jigs, open width. The silk is degummed before bleaching by boiling the pieces for 1 hr. in an olive oil soap and soda ash bath, repeating if necessary, then rinsing until clean with several hot and cold waters. The following procedure will yield a fair white, but with a definite yellowish cast. Make up a 1200-gal. solution containing 9⅓ lb. disodium phosphate, 5⅔ lb. trisodium phosphate, 4⅔ lb. sodium silicate, and 120 lb. hydrogen peroxide (100 vol.). Run fabric in this solution for 6 hr.; add 2 lb. trisodium phosphate and 22 lb. hydrogen peroxide and run another 2 hr. The temperature should not be higher than 130° F. at any time. Give three rinses with water at 120° F., and one with cold water. Aftertreat with 1 gal. acetic acid 56%, 1 gal. lemon oil, and 12 lb. sodium acetate at 90° F. for 30 min. This acid and oil bath is to deodorize and scroop the pieces, and no further treatment is given. The bleach is built up to strength for re-use.



An important use for the spindle vibrometer is in checking operating characteristics of twister spindles

Spindle Vibrometer

Measures relative vibration of spindles; has many applications in textile mills

By W. WARREN EGEE
Research Engineer, Fletcher Works, Inc.

IN THE MANUFACTURE and operation of the high-speed spindles employed on throwing machinery, there has long been a need for an instrument capable of measuring spindle vibration quickly and accurately. Such an instrument—the spindle vibrometer—has been developed in the Fletcher Works research laboratories, at Philadelphia, and is now in successful operation. Originally the spindle vibrometer was developed for use as a laboratory instrument for measuring the relative vibration of the spindles on twisting machinery employed in the silk throwing industry, with a view toward improved spindle design. It is in this application that it has had its greatest value. It is evident that an instrument which will quickly indicate relative vibration is an invaluable aid when tests are being conducted to determine the relative merits of several spindles of different design. Since the results given by the instrument are quantitative, the degree of improvement of one spindle over another may also be determined.

Experience indicates that its application is not limited to this field alone. In actual mill operation, the vibrometer may be used to play an important role in the selection of bad packages or bent or otherwise damaged spindles so that spindle wear may be kept down to a minimum. This is especially true in mills employing heavy packages at high speeds. In many cases installations are being operated under conditions such that a nicely balanced package will not produce a dangerous vibration; but, on the other hand, a warped bobbin, a bent blade, or otherwise unbalanced unit may produce a vibration sufficient to wear out a spindle in a very short time. In such cases, the vibrometer affords the opportunity to correct faults by determining through experiment the maximum allowable vibration at a given speed. Then, with this information at hand, the instrument may be permanently attached to a good spindle running at the given speed and questionable packages may be quickly and easily checked. With the packages which produce too much vibration eliminated, satisfactory operation of the spindle-package combination is assured.

Experience in the use of the instrument makes it possible to locate the source of trouble in installations that are not running satisfactorily. It may be determined by experiment whether the trouble lies in the package, in the spindle, or with the conditions under which the operation is taking place. Thus, much valuable time may be saved when trouble is encountered in the field and the source of the trouble is not readily discernible. Changes in spindle operation due to altered operating conditions may be observed and quickly recognized as good or bad.

A further application of the instrument is the determination of the operating characteristics of a given spindle running at various speeds. It is a well-known fact that in spindle operation, the so-called "critical speeds" are encountered. Thus, when vibration measurements are made with a spindle running at different speeds, and the results are plotted, a characteristic curve for the spindle in question is obtained. Similar curves of vibration versus speed result for different spindles running under the same or different conditions. The general shape of the curves is the same, since different spindles exhibit similar characteristics.

It is a matter of general knowledge that when a steel rod is clamped at one end and is set in motion by tapping the free end, it will vibrate with a characteristic frequency. Now when a spindle is made to rotate with an unbalanced load the recurring forces due to the action of centrifugal force on the unbalanced mass set the blade in motion. When the frequency of the vibrating mass becomes the same as the natural frequency of the blade, "resonance" occurs, and vibration of very large amplitude is encountered. The speeds at which these phenomena occur are known as the "critical speeds," and are represented by peaks in the curves of vibration versus speed.

Naturally, for best operation, the spindle should not be used in or near the range of speed in which a critical occurs. Thus there arises a very important application for the vibrometer, since with it the operating characteristics of various spindle-package combinations may be readily determined. Thus the changes for the proper operating conditions are greatly improved.

The instrument actually is very simple, and gives accurate results. Essen-

tially, it consists of a crystal vibration pick-up unit (sold by the R.C.A. Mfg. Co.) which is clamped to the spindle base and connected to a specially designed and calibrated vacuum tube voltmeter. The voltmeter is battery operated so that the instrument is easily portable.

The crystal pick-up unit utilizes the Piezo-electric properties of a Rochelle salt crystal to convert the mechanical motion to electrical energy. The electrical energy thus produced is amplified and measured by the vacuum tube voltmeter, and the resulting value is an indication of the absolute amplitude of vibration.

The pick-up unit may be quickly and easily fastened to the spindles to be tested by means of a special adapter which fits tightly over the bottom of the spindle base. The use of this adapter eliminates any dampening of the vibration that might result if the pick-up unit were held against the spindle base by hand. When vibration measurements are being made, the only dampening results from the weight of the pick-up and the wire leading from it to the voltmeter. This is in all probability negligible, and in any event is the same for all cases being tested. Due to the fact that the measurements of vibration are made on the outside of the spindle base, there is a possibility of error in the value of the amplitude of the vibration of the spindle blade itself. However, in view of the fact that all measurements are made in the same manner, this possible error is of no consequence.

In the case of the use of the instrument on an installation consisting of all the same type of spindles and bobbins, the instrument may be permanently adjusted and calibrated so that it will indicate directly whether or not the vibration is excessive on the basis of predetermined value. Adjustments are provided to compensate for various conditions of loading and different speeds, and with these adjustments properly set a fair spindle will give half-scale deflection. Then it follows that any spindle-package combination producing less than half-scale deflection is good, and one producing deflection greater than this amount is poor. Thus, even an inexperienced operator can quickly and accurately test spindles or packages and either eliminate or correct those that are bad.

The spindle vibrometer has been in successful operation in the laboratories of Fletcher Works for over a year, and has also had considerable use in the field. In all cases, and under all conditions so far encountered, it has been found to be thoroughly reliable and a valuable aid in all phases of spindle testing.

Since the spindle vibrometer was developed primarily as a laboratory instrument, and also since its operation requires considerable technique, no plans have been made for placing it on the market. Nevertheless, the instrument fills a definite need that has long existed in the textile industry, for in this era of higher speeds and heavier packages, it becomes increasingly important to have available an instrument capable of making vibration measurements. With the spindle vibrometer, periodic checks may be made and excessive vibration detected before serious damage has been done.

The facilities of the Fletcher Works for making vibration measurements will be made available to mills for tests on existing twisting and doubling equipment. The aim of such tests is to determine the most economic speed for operation from a mechanical standpoint and to obtain the best possible results from the machines.

Wider Spun-Rayon Goods

Would be welcomed by men's wear trade

By ALBERT PALMER
Crompton & Knowles Loom Works

STUDIES in the men's wear field indicate that the principal advantages of wide goods lie not in the amount of cloth used, but in the cost of the manufacturing operation. The general opinion seems to be that with narrow goods cutters must spend more time in laying patterns and must resort to piecing that is not necessary with wide goods.

On the face of statements of clothing manufacturers, to make wide goods appears logical. Some mills, however, question what their competitive situation will be if they choose that course and are obliged to sell in competition with narrow goods. To answer this question, a study recently was made to compare the weaving cost for 60-in. goods against that for 36-in. goods, on a square-yard basis.

The study was made on the assumption that 72-in. looms would be necessary for the 60-in. goods, and 46-in. looms for the 36-in. goods. Naturally, with the wider looms, the number of looms per weaver, the speed, and perhaps the efficiency would be less than with the narrower looms. For purposes of comparison, the following conditions were assumed:

	46-in. loom	72-in. loom
Looms per weaver	12	8
Looms per fixer	54	54
Speed	162	135
Per cent production	85	80
Picks per inch	50	50
Width of cloth—finished	36	60
Running yards per loom per 80-hr. week	367	288
Square yards per loom per 80-hr. week	367	480

It is evident that each 72-in. loom will produce 31% more square yards than each 46-in. loom in the same period of time. This increased output per loom decreases weaving cost per square yard. The reduction, however, is not in proportion to the increased output, because labor cost per loom per week is higher for 72-in. looms than for 46-in. looms, and because overhead expense per loom per week is higher for wide looms than for narrow looms. Also, the installed cost of wide looms is higher, and they occupy more space and consume more power than narrow looms. However, despite these offsetting elements, wide looms on the basis of the above assumptions can produce cloth more cheaply than narrow looms, where the cost is figured on a square-yard basis.

Since there seem to be decided advantages in wide cloth from the standpoint of both clothing manufacturer and mill man, loom builders anticipate a demand for wide looms for weaving spun-rayon fabrics. They have been working on new heavier looms and on the various mechanisms and accessories with which these looms must be equipped. Harness motions and shuttle capacity have been given much thought.

The matter of shuttle capacity is a most perplexing one. Basically, the comparison of single-shuttle vs. box looms should be reduced to a consideration of the necessity for mixing filling and of the desirability of providing for more fancy fabrics. Bobbin and shuttle sizes are important. Similarly, provisions for large beams and large rolls of cloth must not be overlooked. Improved let-off mechanisms, stop motions, and takeup mechanisms are essential.

Abstract of speech presented before Textile Square Club, New York, May 21.

Yarn-Levelness Test

Silho-Graph reveals imperfections and gives permanent, visual quality record

By H. A. REEHLING
Laboratory Director, Revonah Spinning Mills

YARN LEVELNESS and other physical characteristics, such as hairiness, appearance, etc., are factors of importance to every spinning mill. A new method of analyzing these characteristics, and of making a permanent, visual record of the condition of given samples, has recently been developed by Revonah Spinning Mills, Hanover, Pa. The method was developed for, and in this mill is used in connection with, manufacture of jute carpet yarns; however, it appears to have interesting possibilities for spinners in other branches of the industry as well.

The essential steps in carrying out the analysis consist of the following:

A winding is made of yarn samples taken from several bobbins representative of a particular yarn size or lot currently being spun, and which it is desired to test. The test area is 25 in. in length, and of sufficient width to accommodate 144 strands of yarn. This gives a 100-yd. test.

Next, a full-size shadow print is made of the yarn being examined. A small reproduction of one of these prints, which are known as Silho-Graphs, is shown in Fig. 1. The print is ruled with horizontal lines at 1-in. intervals; these divide the yarn sample into 3,600 1-in. segments.

Next, the Silho-Graph is examined under a wide-field microscope. Each yarn size, of course, has a particular diameter. By comparing each of the 3,600 yarn sections with a ruled template showing standard diameter, all segments in excess of this diameter can easily be noted. Such sections are marked in red. The total number of these is listed as the swells per 100 yd., and a yarn rating is calculated in per cent of heavy sections per 100 yd. of yarn.

Attached to each Silho-Graph before it is folded and filed away is a label (Fig. 2) recording essential data concerning the test yarn, and the results of other tests to which it has been subjected. These include the date of test; yarn size, color and turns of twist per inch; average and low breaking-strength test figures; number of swells per 100 yd. and the percentage rating which they give to the yarn; name of tester and checker; together with any other pertinent information.

These Silho-Graphs enable the laboratory to make an accurate check on the spinning operations from the standpoint of levelness of the resulting yarn. If mechanical changes are effected, or different kinds of raw materials used, the results of the Silho-Graphs show clearly whether the change is an improvement or not. The method also permits the laboratory to compare the mills yarns against similar types produced by other mills. At Revonah, Silho-Graph tests are made daily on each weight and color of yarn that is being produced. The prints are filed away and thus form a permanent record of the quality of yarn being made daily.

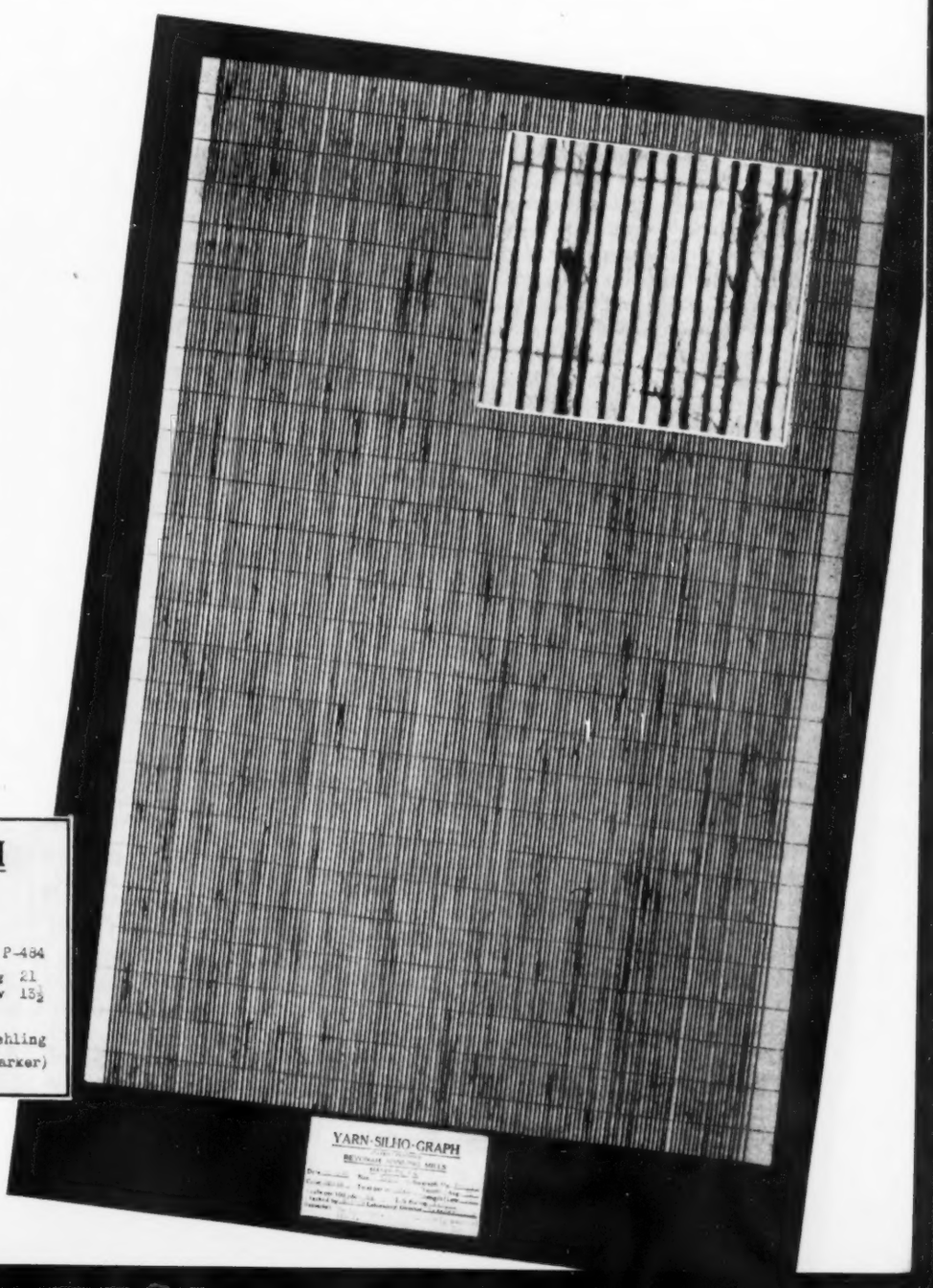


Fig. 1, right, Silho-Graph shadow print used in newly developed yarn-levelness test, with inset showing actual size. Fig. 2, below, Silho-Graph label

YARN-SILHO-GRAPH
(PATENT PENDING)
REVONAH SPINNING MILLS
HANOVER, PA.

Date 4/5/40 Size 13½ Silho-graph No. P-484
Color Green Twist per in. 3.3 Tensile Strength { Avg 21 Low 13½
Swells per 100 yds 64 Lab Rating 1.77
Checked by Elvera Laboratory Director H.A.Reehling
Remarks: Daily check. (Slightly darker)
Mix 1.

Evaluating Wool Oils

Rapid laboratory tests yield results Comparable with those obtained in mill

By GEORGE A. THOMAS

UNSETTLED WORLD CONDITIONS have had an effect on the fat and oil market, especially on the types of fats and oils used in the textile industry. The war in Spain created a scarcity of the olive oils used by the worsted mills as a stock lubricant. The conflict in China has affected the supply of teaseed and other types of oils that can be used by worsted mills when necessity forces them to adopt a substitute for their normal choice of wool oils. The woolen mills have fared no better than the worsted mills. Since September some grades of lard oil have risen materially in price or, if the price has not advanced, the quality has been a question.

From time to time woolen and worsted mills have been offered spot lots of oil, some of which can, and other cannot, be duplicated on subsequent orders. The usual physical and chemical tests of oils include determination of the iodine number, fatty-acid content, specific gravity, saponification value, etc. Many manufacturers know too well that oils of nearly identical physical or chemical properties as disclosed by these tests do not always give identical results in actual plant operations. The time and expense necessary to run a sample lot of wool through the plant from yarn to fabric is too long or unwarranted. The industry has long felt the need of a simple, rapid, inexpensive laboratory method of evaluating wool oils that more nearly approaches actual plant conditions. The method outlined in this article has been used by the writer over a three-year period. The tests can be made with simple, inexpensive equipment.

Results are obtained in two or three days, as against nearly three weeks by the usual method of running through a 500-lb. lot of yarn. Obviously the savings in cost and time will quickly pay for all the laboratory equipment necessary for making the determinations.

It is recommended that each new sample of oil be tested against a sample of the oil actually in use at the time. In that way any differences noted in the action or reaction of the oils will be on a strictly comparative basis. Actual plant trials of a new oil are warranted only when the laboratory tests have indicated that it will prove satisfactory.

Cold or Pour Test: This is the first test to be applied to determine whether an oil can be used under existing plant conditions. The procedure is as follows:

Equal amounts of the oil or oils to be tested and the standard or satisfactory oil are placed in test tubes, oil sample bottles, or small jars. These are closed so they can be tipped and turned to obtain a comparison of their fluidity. The containers are immersed in a chilling solution made from ice, water and salt. One form of apparatus which can be used is shown in Fig. 1. It consists of a cylindrical double-walled earthenware jar, with a heat-insulating material between the walls. Four 4-oz. sample bottles are fastened to the cover and project down into the cooling solution. A thermometer is inserted in the solution through a hole in the cover. The ice, water, and salt mixture is adjusted to give the lowest temperature reached in the room where the oil is used. For example, if the picker room or blending room reaches 40° F. in the winter time, no oil is satisfactory for use if at a temperature of 40° F. it is not fluid enough to flow and be evenly distributed on the stock.

The cooling solution can be maintained at a constant temperature for two or three hours by addition of small amounts of ice. During the test the cover is rotated occasionally so that all samples are cooled uniformly. This test eliminates many oils without further testing.

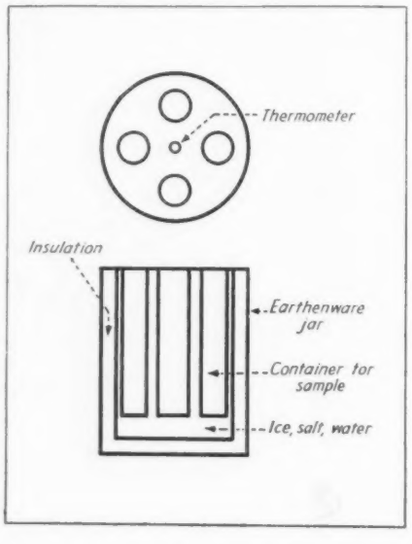


Fig. 1. Apparatus used for making cold or pour test

Viscosity and Volatility Test. Assuming an oil passes the cold test satisfactorily, the next test is to determine whether it has the body or viscosity to provide the necessary lubrication to the stock to prevent undue fiber breakage, and also to determine whether the oil evaporates to such a degree that excessive card- and picking-room losses will be encountered. This test can also be combined with another important test known as the "emulsion stability test."

The first step is to make emulsions of the standard oil and the oils to be tested in the same concentration as used in plant practice. For example, if the plant uses a 3-to-1 emulsion, 25 c.c. of oil and 75 c.c. of water are made up in the some manner as is the emulsion for use in the plant. After the emulsions have been made up and are all at the same temperature, the comparative viscosity is determined by filling a 50-c.c. pipette in turn with each emulsion and counting the seconds for the pipette to empty itself into the original vessel in which the emulsion was made. Emulsions that flow more rapidly—i.e., emptly from the pipette more quickly than does the standard—are looked upon with suspicion as being too light to give satisfactory lubrication.

Satisfactory emulsions are saved for the volatility and emulsion stability tests. The same amount of each emulsion is poured into the same type and size containers, such as 4-oz. glass, screw-top ointment jars. The height of the emulsion in each jar is measured with a pair of outside calipers and noted. The jars are placed in a warm place, such as on the top of a laboratory oven or on a board over a radiator. Measurements are made at stated intervals, such as morning and night, until an appreciable difference in the height of the solution is noticed between different samples of emulsion. At the same time, any separation into layers in the emulsion is measured and noted. These figures can be given as percentages.

Results such as those shown in Tables I and II are obtained in these tests. Table I indicates that No. 1 will show less loss on the stock than any of the others.

While many woolen manufacturers make up an emulsion and apply it to the stock within a few hours, nevertheless the stability of the emulsion has an important bearing on its removability in subsequent scouring operations. If an oily emulsion separates within a few

hours, the separation may not be apparent in the emulsion tank, but there is danger of its taking place on the stock to which it has been applied. Compounded oils composed of several oils blended together which separate within a few hours have been known to separate on the stock to which they are applied, and some constituents stick more tenaciously than others, leaving a high alcohol or ether extract in the finished goods.

Table II indicates that oil No. 1 would be first choice; No. 3, second choice. When these figures are compared with those in Table I, oil No. 1 is still to be first choice, and No. 3 is a close second.

Accelerated Oxidation Test. The influence of light and air on an oil which has been applied to wool has an important bearing on the ease with which the oil is removed in the fulling and scouring operations. Exposure of oils to the oxidizing action of light and air causes them to gum, discolor, turn rancid, etc. Ultra-violet rays developed from a suitable source will in a few hours duplicate results obtained by weeks or months of normal exposure, such as

Table I. Volatility test—Per cent loss of emulsion by evaporation

Sample	12 hr.	24 hr.	48 hr.	132 hr.
1	0	0	0	1%
2	0	0	1%	1%
3	0	0	½%	1%
4	0	0	½%	1¼%

Table II. Emulsion stability test—per cent separation

Sample	12 hr.	24 hr.	48 hr.	132 hr.
1	0	0	Trace	½%
2	1%	2%	4%*	5%*
3	Trace	1%	1%	3%
4	Trace	4%	4%	6%

*Three layers: free oil, cream, watery emulsion.

occur when tops are stored in the grease, or woven fabrics are waiting to be wet finished.

Using a Fade-Ometer as a source of ultra-violet rays Von Bergen found a 20-hr. exposure was equal in oxidation to three months' exposure to room atmosphere, and that a 40-hr. exposure corresponds to a year. Using a GE sun lamp as a source of ultra-violet rays, the writer has closely approximated the results recorded by Von Bergen. It makes little difference which type of source of ultra-violet rays is used, as long as comparisons are made with a standard or satisfactory oil. The source of light must be placed far enough away from the material being tested to prevent scorching.

The method used by the writer consists of centering the sun lamp over a large galvanized wash tub, as shown in

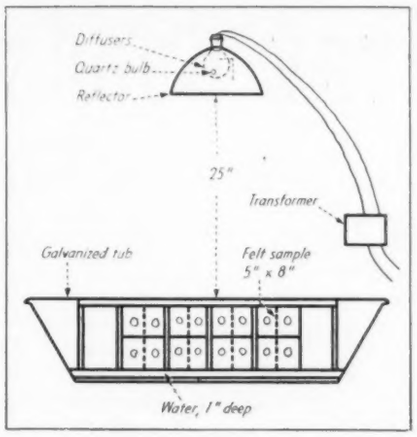


Fig. 2. Apparatus employed in carrying out accelerated oxidation test

Fig. 2. The tub has water in the bottom to a depth of 2 in. to provide a moist atmosphere. The bulb of the sun lamp is 28 in. from the inside edge of the tub. Pieces of all-wool, 40-oz. felt are cut in 5 x 8-in. sections and marked off into smaller 2½ x 4-in. rectangles. In the center of a rectangle is placed 0.3 c.c. of the oil to be tested. Other pieces of felt are treated with 0.3 c.c. of the oil emulsions made up in the concentration used in the plant.

The swatches of spotted felt are fastened around the sides of the wash tub and exposed to the rays of the light for 24 and 48 hr. Any sample which is browner than the standard is looked upon with suspicion as being one that will oxidize too much, causing difficulty in removal.

Wash Test. To determine the thoroughness with which the oil can be scoured from the goods, the exposed pieces of felt are subjected to a standard wash test. If a machine like the Launder-Ometer is available, the felt is cut along the lines which mark off the 2½ x 4-in. rectangles, and these pieces are given a standard wash test. The time, temperature, and composition and concentration of the scouring solution should be the same as in mill practice. In a worsted mill, where the fabric is scoured but not fulled, a solution of 0.2% soap and 0.1% soda ash might be employed. In a woolen mill a solution of 0.4% soap and 0.4% soda ash might be used. The scoured samples are held up to a strong light to permit a comparison of the thoroughness with which the oils have been removed. Oil that has not been removed will tend to make the felt more transparent.

Specific qualities. Frequently the special requirements of an individual mill make it necessary to carry out tests other than those previously described. It sometimes requires considerable ingenuity to devise a rapid and inexpensive laboratory test that will give results corresponding to those obtained in plant practice. For example, in some mills, certain types of materials are acid fulled. In this case the emulsion must be stable in acid of the concentration used in fulling. That is, it must remain in suspension during fulling and wash out with the acid before dyeing. A test for determining the suitability of an oil for use on wool which is to be acid fulled would consist of making an emulsion of the concentration needed, adding to it a quantity of the acid fulling solution and determining the length of time before separation takes place.

In some mills fabrics are piece dyed, and any oil which is unevenly distributed in the goods may cause streaks or uneven dyeings. To determine the suitability of the oil, samples of oil-treated felt which have been exposed to the rays of the ultra-violet lamp and given a standard scour, as described above, can be dyed with a dye that is known to be easily affected by the presence of oil. For example, oil-soluble dyes, such as the Sudan colors, or certain acid colors, such as Acid Blue R, give a distinctly darker shade on oil-contaminated goods.

Another way to determine the thoroughness with which an oil is removed by scouring is as follows: A 50-gram sample of scoured wool is spread out on a clean non-absorbent surface, such as a porcelain tray used by butchers to display meats. This sample is sprayed with the amount and concentration of emulsion used in the mill. The treated wool is then worked by hand to distribute the oil evenly, given a hand carding, put in a paper bag, and allowed to remain undisturbed for two days. It is next scoured by hand in a soap and soda solution in the same manner as for raw wool scouring. When the stock has been dried, alcohol and ether extracts can be run to determine the residue of oil remaining. Comparable results can be obtained if the sample under consideration and the standard are run at the same time in the same way. A method for making a rapid ether extraction on samples of this kind was outlined by the writer in an article on "Surface-Active Chemicals" in the August, 1938, issue of TEXTILE WORLD.

Price comparisons. When testing oils that are offered for spot delivery, the price comparison consists of determining the cost of the considered oil and the standard. One oil may be quoted by the pound and another by the gallon. In making the price comparison, one must determine the specific gravity or the weight per gallon. If the oil being considered is not self emulsifying, one must take into consideration the amount and cost of emulsifying agent needed.

Faults in Gray Goods

Minor defects in fabrics leaving mill may offer serious problems to finisher

By WILLIAM F. ROBINSON
Gen'l. Mgr., North Carolina Finishing Co.

THE MUTUAL PROBLEM of weavers and finishers is—first, last, and always—to turn out a piece of cloth which is as nearly perfect as can possibly be made. One of our greatest handicaps is that in a good many cases mill men have no idea what subsequent treatment is to be given their goods. This is not always true; but a mill making broadcloths never knows whether the goods are to be finished white, printed, or dyed in plain shades. There are certain types of defects which would not be particularly objectionable in white or prints, but which would be unfortunate if the goods were to be converted into plain shades. Without knowledge to the contrary, one severe standard of inspection must be maintained, and certain goods may be classified as seconds which could be converted into first-quality merchandise under certain specifications.

Some mills still use threads dyed with fast colors to attach to the selvage of goods to denote defects. If the man who opens a bale does not see them and remove them, serious damage can result, because these fast colors will bleed when the goods are subjected to boiling with caustic; and any other goods being handled at the same time will be damaged. It would be much better to use white threads. The color in crayons used for marking and in ink used in the stamps to denote shift changes should be made with fugitive colors, because of the possibility of bleeding in caustic boiling. Even fugitive crayons and stamps have given trouble, and particularly last season when so many hopsackings and osnaburgs were finished in the natural gray color. These goods were simply desized in lukewarm water and cold-water washed, and there is nothing in such treatment to remove this color. The result was that the fugitive color bled into other parts of the goods, and some mills were forced to pay substantial claims because of this damage.

There are some problems which probably are not considered troubles in the mill, because they do not develop or are not particularly noticeable until subsequent finishing operations.

Tight selvages are a very serious problem. Most cotton fabrics are handled through tension machinery, and if the selvages are tight, it means that they must bear the entire stress and strain of running through tension machines. The selvages simply will not stand this tension alone, and the result is that these snap as the goods pass through the various machines in the bleachery. Tight selvages are most common on oxfords, and occasionally on 80 squares print cloth.

WEAVING DEFECTS, if too numerous, always result in a classification of second quality. However, minor defects are not always serious. For example, a shirt manufacturer would not classify a garment as a second unless the minor defects fell on the shirt front and collar. Again, unless a defect falls on the front fold of a sheet, where it is easily seen by the consumer, it would not result in a classification of seconds.

There is one type of defect which should always be handled in the cloth room, and that is the hanging thread. A hanging thread is unsightly and is immediately noticed by the consumer. The garment manufacturer can cut off these threads, but if he finds it necessary to have a girl especially looking for this type of trouble, he will either go elsewhere for his goods next time or will ask for reimbursement to cover the cost of this extra operation.

Another weaving defect which gives trouble is caused by bad reeding. Bad reeding, if not too extreme, is not particularly noticeable on a printed fabric, and a few will even get by in white. On the other hand, if the goods are piece dyed, every bent reed or misdraw causes a thick and thin place, and this will show up as a streak. This is an instance where knowledge of subsequent handling would be tremendously helpful to a mill man because he could put all goods with bad reeding into shipments which he knows are to be printed and save the better goods for piece dyeing.

Width is another important feature; and this is particularly true today when so many fabrics are Sanforized. If a mill has one loom turning out narrow goods, it is going to result in serious trouble because it will mean that the garment manufacturer will receive goods narrower than specified in his contract. In days gone by the finishers necessarily absorbed all complaints regarding finished width, but, due to the Sanforizing requirements, it now becomes an equal responsibility of the mill men.

Spot washing, or the use of oil remover, is one phase of mill work which is most important. If improperly carried out, it can result in as great a loss as any other one trouble. Goods which are to be bale dyed should be entirely free from oil remover. A few oily slubs or oily spots are not nearly so bad as one spot treated with oil remover. The oil remover is actually a lubricant, and, since there is no preliminary treatment in bale dyeing to remove the oil, it actually acts as a penetrant, making the cloth take up more dye at that point than in the balance of the fabric. This results in a dark dye splotch, and the piece must be classified as a second. Consequently, on goods to be bale dyed, it is always best to leave small minor oil spot alone. If there are places which simply must be washed, it is best to use plain neutral soap. If the goods are to be bleached and dyed, the first care is to be sure that the remover is entirely free from iron. If the remover has iron, the caustic boil will remove the oil remover and leave a faint iron stain. If the cloth is dyed, the iron resists the dye and results in a light dye splotch. Most oil removers are free of iron when delivered by the manufacturer, but there is a tendency on the part of many of them to pick up iron if left in an open metal container for any length of time. Consequently, if the oil remover is received in a metal drum, it should be transferred to wooden barrels as soon as the drum is opened.

Proper application of oil remover is really the secret of eliminating any possible trouble. If the remover is simply poured on the oil spot, it is doubtful if the spot can be removed in bleaching. Therefore, the oil remover must be rubbed in. Unless care is used in rubbing in, the yarns will be frayed and this will cause a chafe spot in dyeing. To avoid this, the oil remover can be rubbed in with the bottom of an ordinary teaspoon. The girls, when using a teaspoon, can exert a fair amount of pressure, because the bottom of the spoon is smooth and will not bruise the yarns. However, the girls should be carefully instructed and watched, because they may hit a tough spot or they may want to speed up their work, and to do this may use the thin edge of the spoon and thus cause a chafe spot.

Abstract of paper presented at a meeting of the South Carolina Division of the Southern Textile Association held April 20, in Drayton, S. C.

"America at Home" occupies a whole building featuring 16 specially designed rooms; "World of Fashion" is another building devoted even more completely to textiles. Shown is the bedroom "Blue Heaven" designed by Joseph B. Platt. Rug and bedspread are from Cabin Crafts, Inc.

Textile Men, Come to the FAIR!

And bring your women folks, as there's a special appeal there for them

THE NEW YORK WORLD'S FAIR, last year, had a scattered interest for textile visitors. We gathered together all the points of interest and presented the only Textile Guide to the fair in existence. We do the same, in the pages that follow, for the 1940 fair.

But this year, the program is different. In 1939, what was to be the Textile Building degenerated into, first, the Hall of Special Events, named thusly, we suppose, because it housed no special events. Unless one can call the taking of mugs to be affixed to season tickets a special event.

Later it degenerated further into a hall of free swing music. Some of our younger readers may resent the use of the word "degenerated" in this connection. We applaud their energy, but question their taste.

Anyway, this year there *is* a focal point for textiles. It is named the "World of Fashion" Building. Its guiding spirit is Mary Lewis, than whom—in the fashion world—there is probably no than whomer. This building will include a Hall of Textiles, where the rayon yarn producers and other textile groups will have cooperative exhibits. You will be able to eat while you view a fashion show, or view a fashion show while you eat—whichever is more important to you. The building was opened to the public June 1.

Then there is a second focal point: "America at Home." This does, to a lesser degree, a job for textiles as draperies, upholsteries, rugs, etc. Although this is not primarily a manufacturers' exhibit, it is at least textile—and to this writer, worn weary by years of preaching textile promotion, any textile exhibit is better than none.

In addition, many of the 1939 textile exhibits in individual company buildings are repeated, with improvements, in 1940. Foreign buildings, also, contain specialized textile exhibits which may be stimuli to novelty production.

We reproduce in the following pages pictures of some of these exhibits. In addition, we append a list of all displays of interest to textile men which we were able to dig out, up to press time.

It's a good show. Come and see it. Put your trip on your expense account if you've got that kind of a boss. But come anyway. And 'phone us, or call on us, when you get to New York, for any help we can give you. TEXTILE WORLD's 'phone number is Medallion 3-0700. Ask for Extension 344. If we're not writing an editorial, we might be induced to play hookey, and go to the fair with you.—*Editor.*

More Textile Exhibits Are Shown on Following Pages

GUIDE TO EXHIBITS OF INTEREST TO TEXTILE MEN AT NEW YORK FAIR

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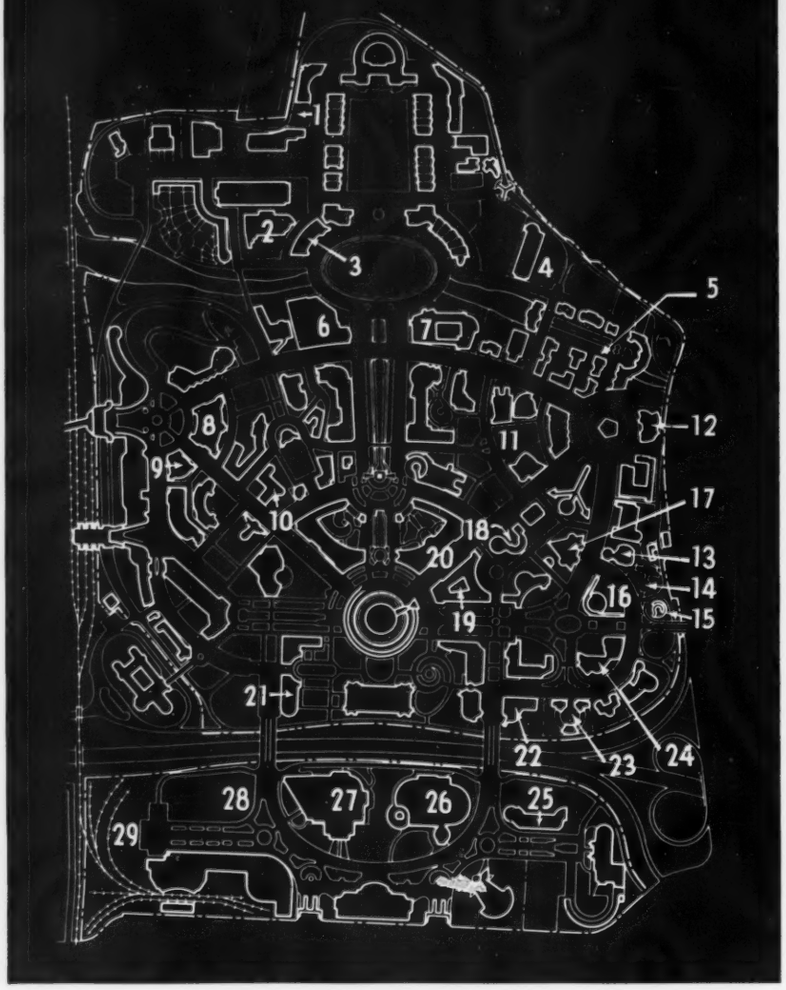
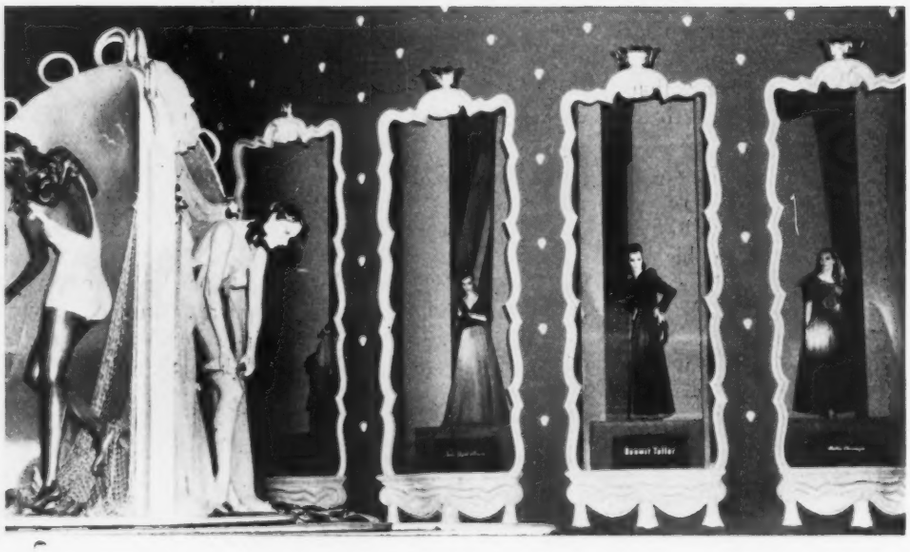
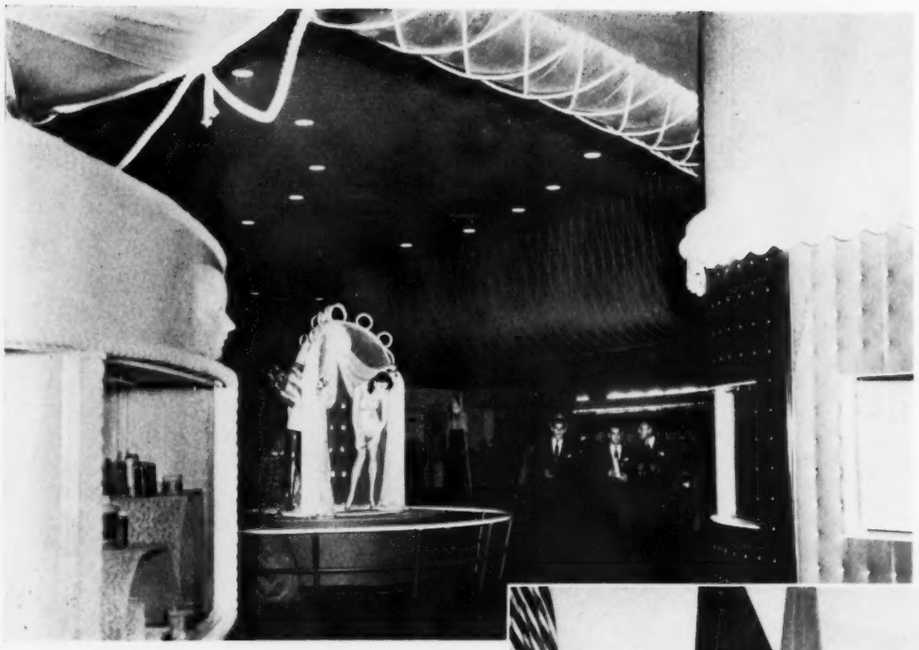


The World of Fashion



Parade of Labels—a striking part of the World of Fashion Exhibit. Top flight gowns sponsored by houses known the world over are displayed in framed windows. At left is Firestone's Controlastic group



Panorama of the World of Fashion—The Arcade of Accessories at left (window displays of bags, scarves, stockings, gloves, etc.) Fabrics are used lavishly in wall and ceiling treatment

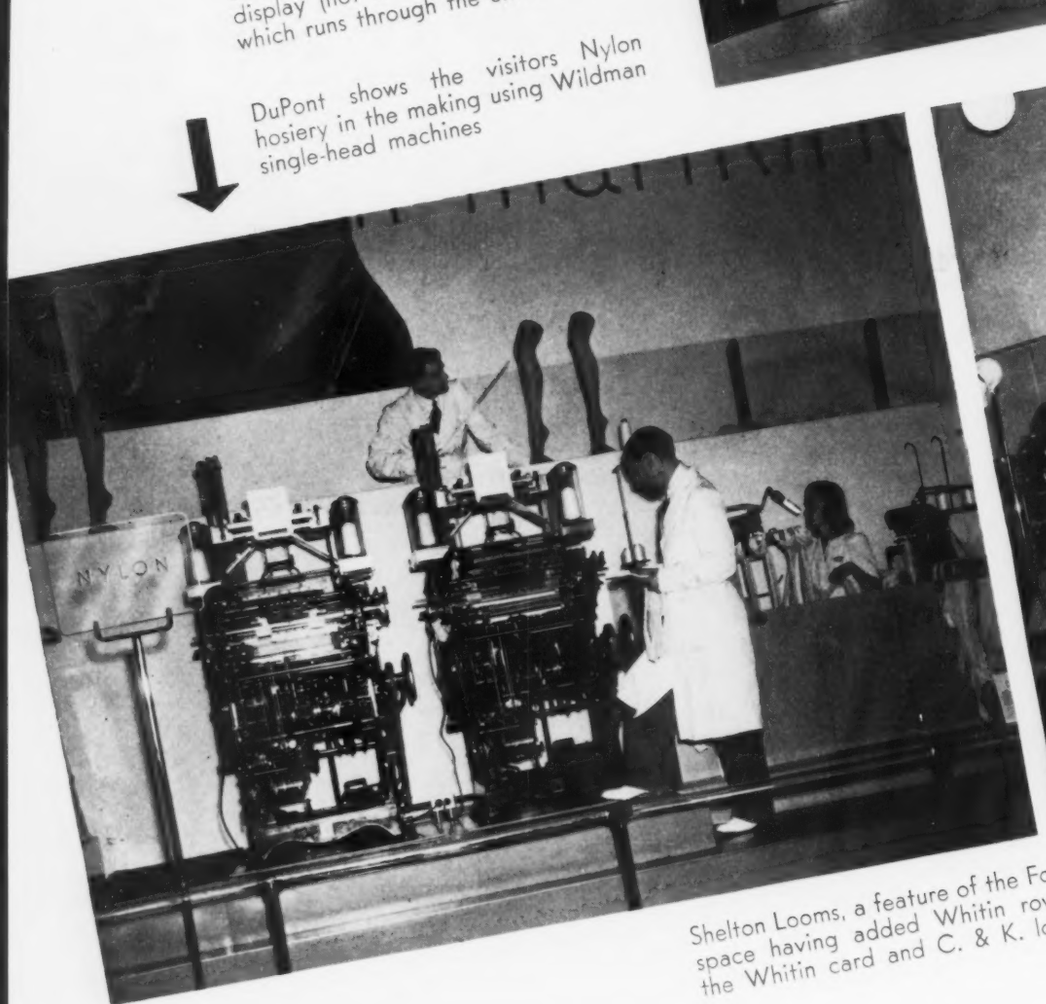
Alphonse Berge, lightning garment designer, drapes yard-goods on living models and transforms them into brides, dinner guests, etc., in mere seconds of time. Of course his fabrics and laces are rayon, as he is a featured part of the Rayon Group Exhibit. The rayon bride at right is done in 30 seconds. Winchell calls this the "strip-tease in reverse"

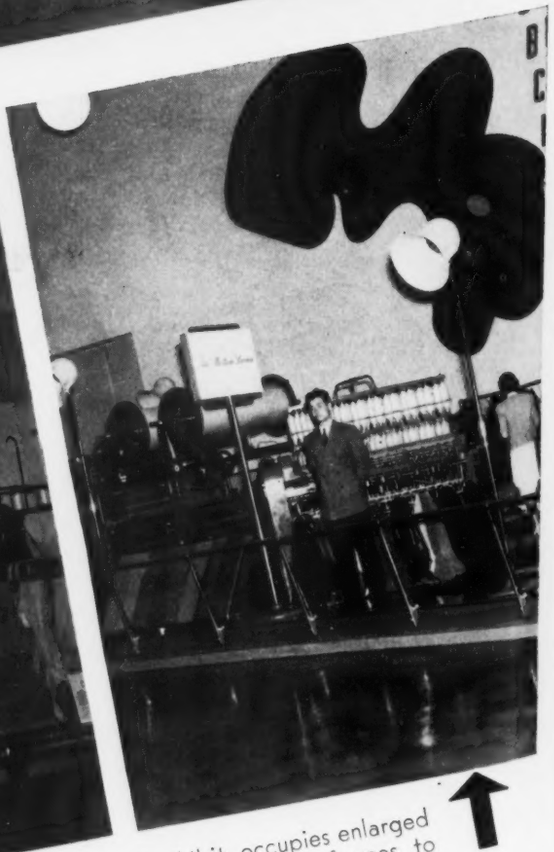
Three bird cages form the background for the Rayon Exhibit's continuous style show in World of Fashion. Real birds are on one side—then the cage revolves and a rayon-clad mannequin steps out from the other side. At left are a starched chiffon dinner dress and parasol, and a white jersey evening dress with matching cape

New Fabrics and New Processes at 1940 World's Fair

Du Pont dramatizes the use of its viscose and acetate rayon in this striking group. An extensive fabric display (not shown) covers one wall which runs through the entire exhibit

DuPont shows the visitors Nylon hosiery in the making using Wildman single-head machines

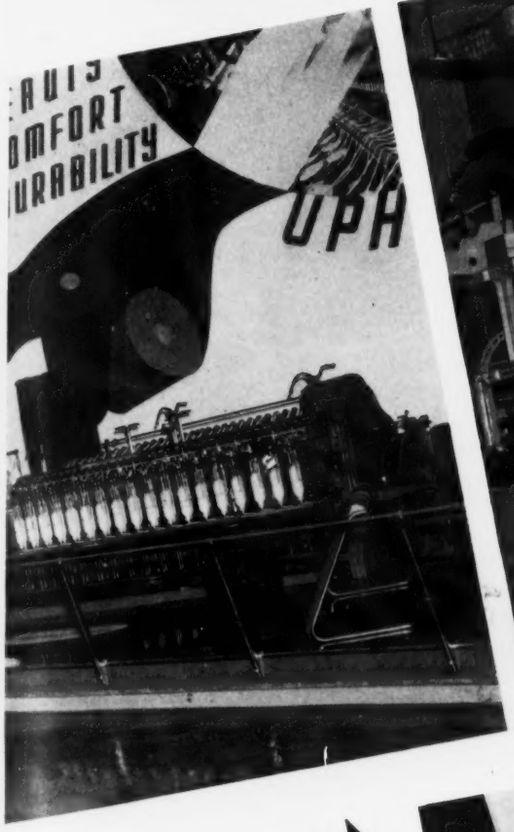




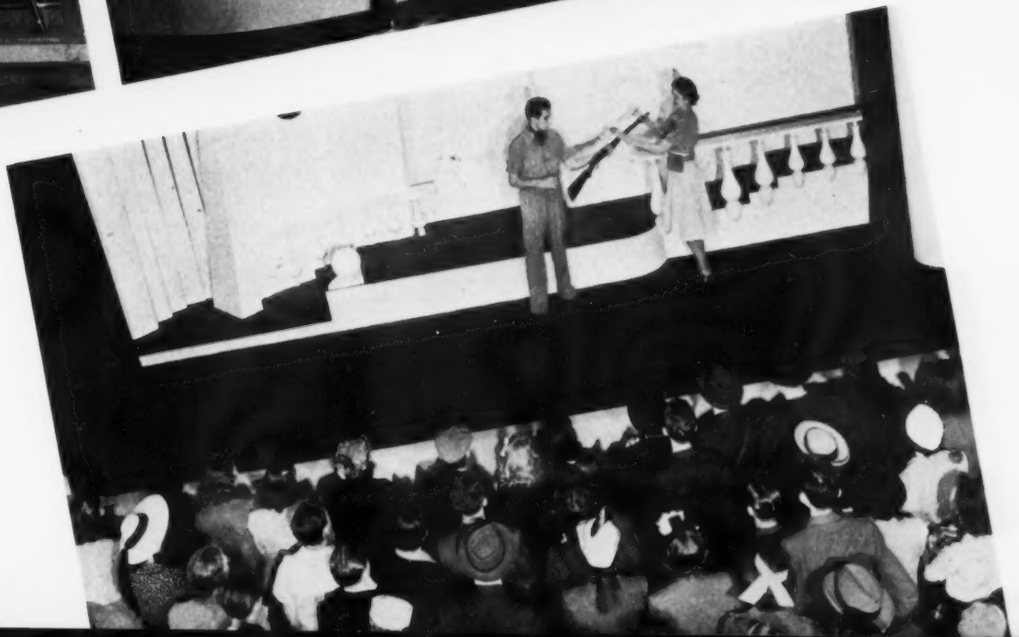
Shelton Looms, a feature of the Ford exhibit, occupies enlarged space having added Whitin roving and spinning frames to the Whitin card and C. & K. loom continued from last year

A glimpse of the Kodak garden with mannequins wearing Eastman acetate costumes, ready to take part in the frequently-shown parade of fashions

Owens-Corning Fiberglas Corp. is using increased space this year. Saco-Lowell twister is handling Fiberglas yarn at right; next a Universal winder, and then two Fletcher narrow fabric looms weaving tape. Useful souvenirs of Fiberglas are being sold over the counter



Tennessee-Eastman rayon is brought to public attention through style shows at the Kodak Building. The sports outfits shown are made of Teca, the crimped acetate staple fiber



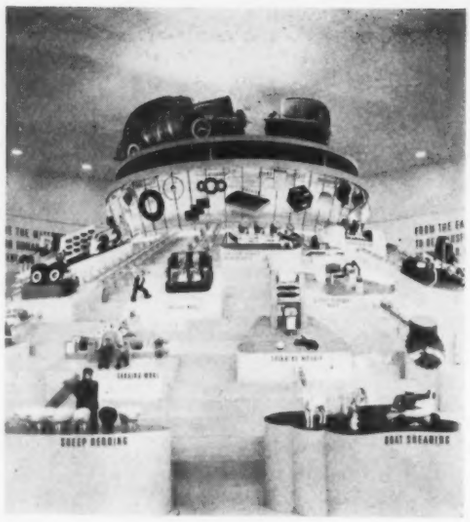
©NYWF

RIGHT

Ford dramatizes the many materials going into an automobile with this gigantic turntable. Here one sees the wool and mohair sequences from raw material in foreground to finished items at top

BELOW

Switzerland has increased its space at the Fair this year and brings from the Zurich Exposition the mechanical mannequins which were a major success there. The garments are creations of Rene Hubert, Swiss designer, utilizing Swiss fabrics



BOTTOM LEFT

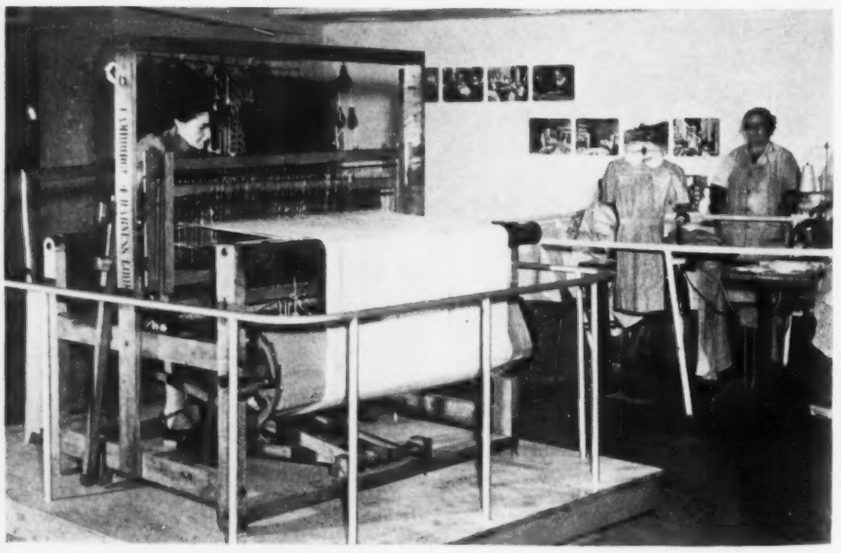
A turntable at Firestone exhibit shows several display figures appareled in items using Controlastic, from foundation garments to evening dress

RIGHT CENTER

S. Stroock & Co. has increased its exhibit in the Peruvian Building, where that firm shows fabrics and garments from the rarer fibers, such as vicuna, which come from animals found only in Peru

BOTTOM RIGHT

Federal Projects Agency dramatized the work of the WPA in textiles with the 4-harness hand loom shown below and a garment project adjoining.



TEXTILE EQUIPMENT NEWS

New 5B Machine

A new 5B doubler-twister for silk and rayon yarns was introduced by Atwood Machine Co., Stonington, Conn., at the recent Knitting Arts Exhibition. It is said to include a number of engineering features and improvements that increase its efficiency, speed, and economy of operation.

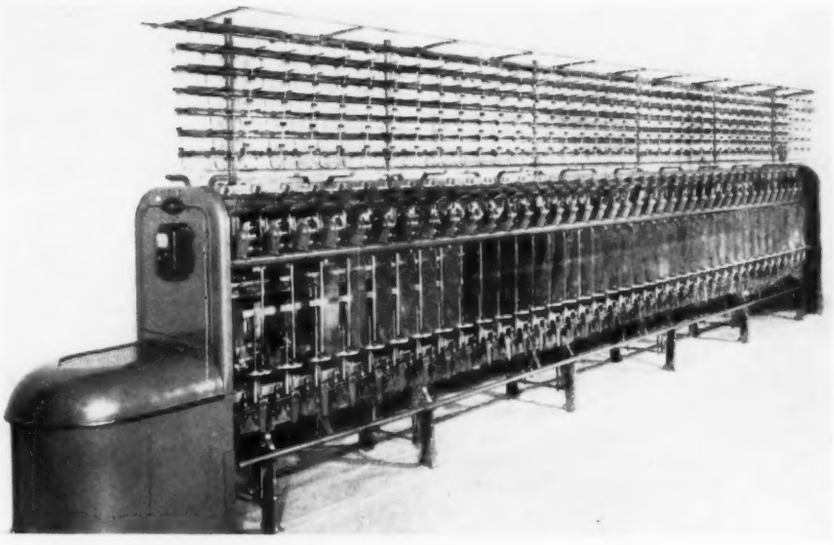
A broader range of usefulness is one of the features of the machine. Traverse can be up to 8 in., with a wide range of speeds. A traversing thread guide controls ballooning, and the improved traverse mechanism has a heavy-duty cam running in oil.

Twist can be from 1½ to 100 turns per inch. Rings are individually mounted, and up to 4¾ in. in diameter. Full-length separators are used. Spindles carry up to 1 lb. packages and can be obtained with whorls for belts up to 2 in. in width. Roller-bearing spindles and ball-bearing idlers are optional equipment.

Overend delivery is standard equipment. Tension on the yarn is said to be soft and uniform, and obtained by a simple mechanism which requires no adjustments and has no loose parts. In addition, the manufacturers state this delivery makes possible higher yarn speeds and permits a balanced feed from each bobbin or cone.

The drive end of the new machine has a sliding motor, rigidly mounted on a three-point, ball-bearing, wheel support. A heavy mainspring takeup is said accurately to control belt tension.

In general, the machine has been designed for greater strength and rigidity, permanently accurate alignment and freedom from vibration.



5B Machine for rayon and silk yarns (Atwood)

Doubling Winder

A recent development of Foster Machine Co., Westfield, Mass., is their No. 57 doubler for producing either tubes or cheeses of folded yarn for twister supply. The machine incorporates a number of improvements over previous models. Higher winding speeds is one of these. Shafts are completely equipped with ball bearings, and the machine has a head-end, V-belt drive. Top winding speed, it is stated, is limited only by the spindle stop action to prevent run-ins.

Tension arrangements have been refined to assure exactly equal tensioning of the two or more ends winding on each spindle. Tensions are of anti-vibration type. Light tensioning is provided for finer yarns, and heavier tensioning for coarser numbers.

Included is a quick-acting stop motion, combining drop wire and brake, which operates even at highest speeds so as to leave sufficient yarn for single-end piecing-up when a supply package runs out. The blade-type slub catchers with which the machine is equipped are adjustable for different sizes of yarn.

The machine can be equipped for drawing from either bobbins or cones. It is said to be able to handle all numbers of yarns up to 150/1 cotton.

Combustion Chamber for Gas-Fading Tests

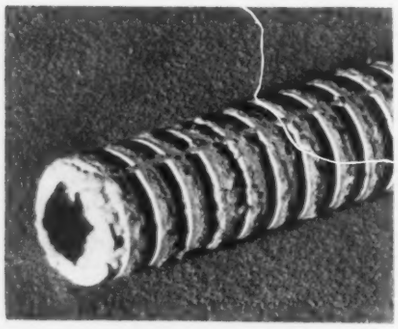
United States Testing Co., Hoboken, N. J., has devised a combustion chamber for testing acetate rayon fabrics for their resistance to atmospheric fading. The device will be used for testing of manufacturers' fabrics by the company, and will also be manufactured and sold to textile mills and other interested organizations.

The machine, it is said, is so designed as to control the flow of the combusted gases, the exhaustion of the fumes, and the temperature. By means of a series of baffles and drafts, a uniform concentration of the gas acid fumes that cause this color change is insured.

Temple Roll

A temple roll, made of a new durable synthetic material which incorporates a series of abrasion-resisting yarn ends, and designed to afford unusually long life, has been announced by Hardman Rubber Co., Wollaston, Mass. The specially developed synthetic material is said to resemble rubber and to be made remarkably resilient, tough, and resistant to abrasion. It also offers excellent surface cling. The material is so

Doubling winder (Foster)



Synthetic temple roll (Hardman)

compounded as to be impervious to the oils and acids used in the manufacture of acetate and other synthetic fibers. Therefore, the rolls are particularly suited to synthetic yarns, either filament or spun, as well as to yarns containing natural fibers.

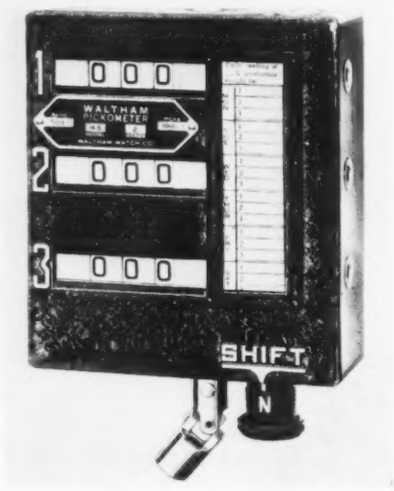
Extensive mill tests to date are said to show not only long life and a resultant saving in cost, but also improvement in fabric quality, since the continued even pressure of the roll surface over a long period of time eliminates danger of tight selvages and other similar imperfections. The rolls, it is stated, are able to hold harsh fabrics constantly to width for months at a time, thus reducing pulling on and cutting of reed wires.

Mercerizing Padder

Textile-Finishing Machinery Co., Providence, R. I., has introduced a new type mercerizing padder designed for use at the entering end of a mercerizing range. The padder is equipped with a welded-steel liquor tank, entering and delivery carrier rolls, fitted with ball-bearing pillow blocks, and two sets of expanders. At the entering end is an automatic electric guider (not shown in the illustration). The machine is furnished with compound lever and weight pressure, and with heavy-duty, all-welded compensator with expanders. All rubber rolls are provided with spherical roller bearings.

Shutter-type Pick Counter

A shutter-type pick counter, known as the Pickometer, has been announced by Waltham Watch Co., Waltham, Mass. Once the resetting key is inserted, shutters cover all windows; and when once a change is started it must be carried through to zero before the shutter opens again. This feature, it is said, makes tampering impossible, and the register cannot be moved ahead except by actual loom production.



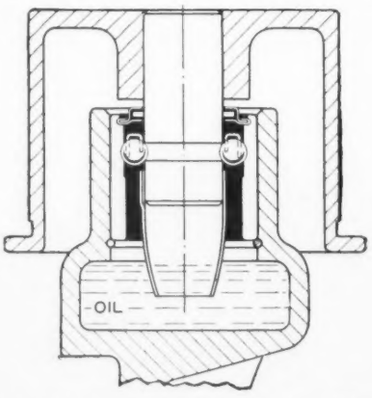
Shutter-type pick counter (Waltham)

The counter can be obtained for either 2- or 3-shift operation, continuous or resettable, and with 2, 3, or 4 figures. It is pointed out that 2-shift meters can be easily converted to handle three shifts, if this becomes desirable, since the original case is so constructed that it will take the third shift mechanism as an integral part.

Other interesting details of the counter include that the center drive is interchangeable for use right- or left-hand looms; that the counter is resettable from either side, and with one hand; and that it contains oilless bearings, thus obviating oiling and possibility of oil dripping on cloth.

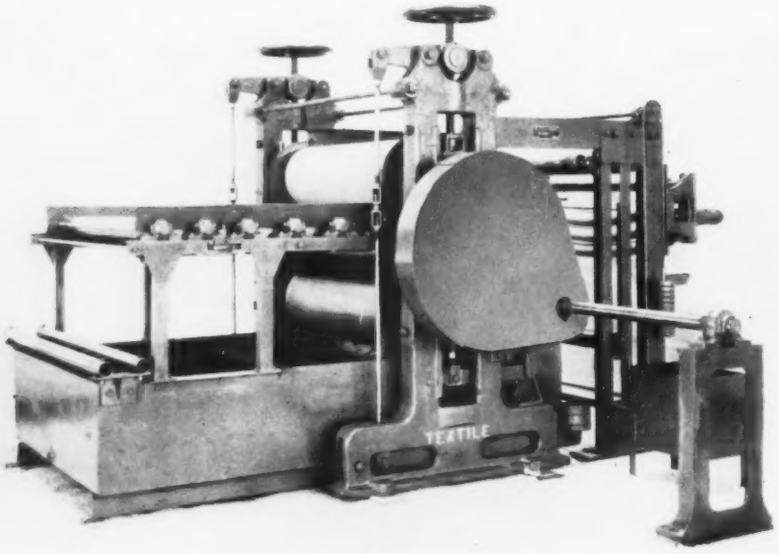
Vertical Tension Pulley Bearing

A new type vertical tension pulley bearing, developed for and expected to be of considerable use to textile mills, has just been announced by New Departure Division, General Motors Corp., Bristol, Conn. Design of the bearing is said to be unique in a number of respects. The bearing provides a vertical stub shaft on which the pulley is mounted, and also contains its own oil circulating system for speeds of 3,500 to 15,000 r.p.m. By this system, oil is drawn from a reservoir below the bearing and passed in a fine spray directly to the balls and races. Since the bearing is of the self-sealed type with all-metal seals, the oiling system is completely inclosed and oil need be added only at yearly intervals.

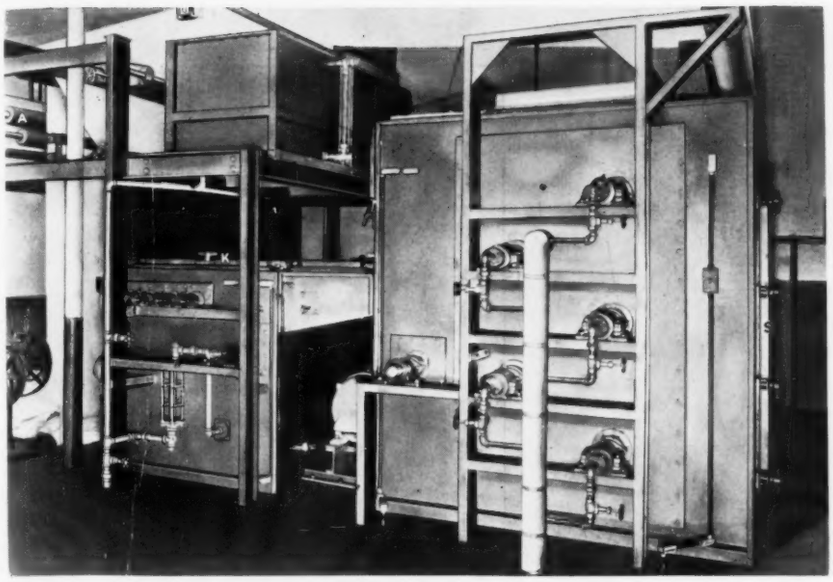


Vertical tension pulley bearing (New Departure)

Another feature, according to the manufacturers, is its ease of rotation, there being no drag in the seals or resistance to turning by the lubricant. In mounting, no locknuts, screws, or other parts are required, and the bearing can be easily removed without tools for re-oiling.



Mercerizing padder (Textile-Finishing)



Continuous fabric dry-cleaning machine (Riggs & Lombard)

Fabric Dry Cleaning Machine

Riggs & Lombard, Inc., Lowell, Mass., have obtained exclusive rights to manufacture and sell the Derby Continuous Dry Cleaner. This machine, invented by Roland E. Derby, was described in detail in the October, 1939, issue of TEXTILE WORLD. It processes woolen and worsted fabrics, and mohair plushes, direct from the loom, utilizing a non-inflammable solvent, Dercosol, instead of water, soap, and detergents.

Advantages claimed for this process include: Complete removal of tar, paint, asphalt, creosote and dust spots; large savings in oil, due to the fact that the cheapest mineral oil can be used in the picker room; elimination of stream contamination due to oil residue; increase in burling and mending production of 300 to 400%; elimination of scouring in many instances; elimination or great reduction in use of soap; reduction in quantity of redyes and seconds; creation of conditions favorable to acid fulling; and delivery of fabrics to finishing room with negligible oil content.

The solvent used is said to be 98% recoverable; hence the original high cost of the solvent becomes a negligible factor.

Doubler-Twister

In addition to the heavy-duty silk twister described in these columns last month, Fletcher Works, Inc., Glenwood Ave. and Second St., Philadelphia, also introduced an improved doubler-twister at the 1940 Knitting Arts Exhibition. The machine is said to be simple in design, of rigid and durable construction, and clean and steady in operation. It is equipped with the company's "Oil-well" spindles, and has the unit-control feature described last month.

The machine is equipped for over-end delivery. Large, double-flanged feed rolls are used. Rings are separately mounted on individually adjustable brackets; either rigid or swing types are available. The spindle swings can be accurately and simply adjusted, and are said to assure proper belt-whorl contact. Steel rails are vertically mounted for added rigidity and afford good spindle-swing support. The traverse motion has a machined cam surface, and makes possible up to 7 in. traverse. The quick-acting stop motion helps avoid single ends, minimizes roller laps, and facilitates tying, it is stated.

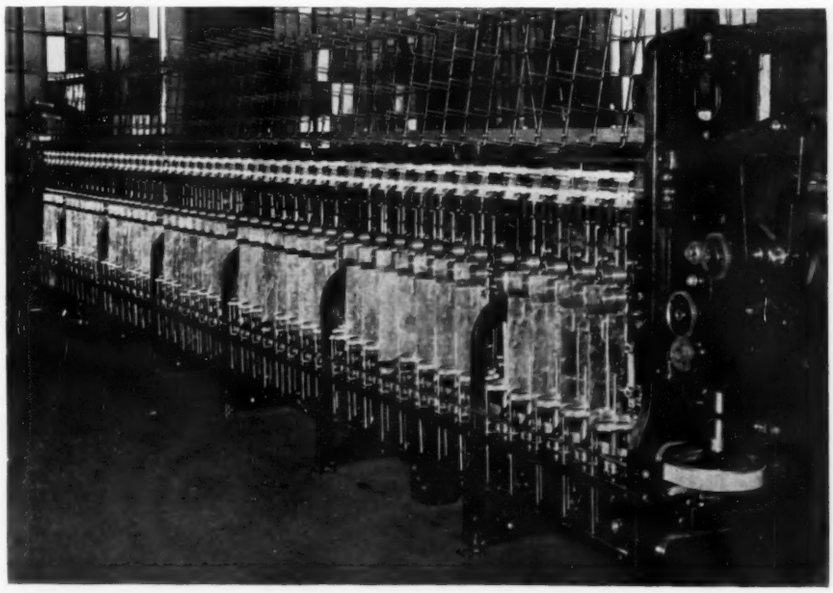
The machine is motor driven, with the motor mounted on a ball-bearing sliding base. Accurate and sensitive belt adjustment is provided for, and an extension rack permits belt stretch up to 30 in.

Useful Accessories for Textile Mills

High-Wattage Fluorescent Unit. General Electric Lamp Dept., Nela Park, Cleveland, has announced development of a new two-tube RF fluorescent luminaire designed for industrial areas. The fixture is rated at 200 watts and operates two 85-watt tubes, each 58 in. long. This department has also announced RF fluorescent lamps in two different colors: the original blue-white tube and a new white lamp. The latter is designed for use where color is a prime factor. The tubes are interchangeable with blue-white tubes on all Cooper-Hewitt fluorescent lamps now in service.

Infra-Red Ray Drying Units. North American Electric Lamp Co., St. Louis, Mo., is offering standard units of infra-red-ray drying-lamp banks. The units are available completely assembled with from three to eight lamps per unit. They are furnished complete with lamps, reflectors, and porcelain sockets, mounted on rigid conduit ready for immediate use.

Flame Detector. Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, has introduced a detector which warns boiler operators of possible furnace explosions that may result from loss of ignition. The device consists of a light-sensitive phototube within a special housing,



Doubler-twister (Fletcher)

which is mounted on the boiler front or wall. The tube operates to sound an alarm whenever there is flame failure.

Fluorescent Lighting Unit. Hygrade Sylvania Corp., Salem, Mass., has announced the latest addition to its line of complete fluorescent lighting units, a 100-watt unit designed for general commercial illumination, employing two 40 watt Hygrade fluorescent lamps, either daylight or white.

Program Clock. International Business Machines Corp., 270 Broadway, New York, has announced an improved master program clock to be used in connection with program signalling systems. It operates on either 110 or 220 volts, 60 cycles. A master relay operates one circuit of 24-volt d-c. secondary units; it will also operate a program machine, duration relay, push buttons, and switches for controlling four circuits of 24-volt signal devices.

Stereoscopic Microscopes. Spencer Lens Co., Buffalo, N. Y., is marketing a new series of stereoscopic microscopes said to have great depth of focus, an exceptionally large object field, and a high degree of resolution of fine detail giving critical sharpness to images. Seven different powers in paired objectives and four in paired eyepieces provide a total of 28 different magnifications, ranging from 6.3X to 144X.

Recorders and Controllers. General Electric Co., Schenectady, N. Y., has developed a new duplex recorder for recording simultaneously kilowatts and reactive kva., or kilowatts and frequency, or volts and amperes on a single chart. It is expected to have wide use wherever it is desirable to obtain synchronism between two separate records, or where space economy makes it necessary to place two separate mechanisms in a single case.

New Dyes and Chemicals

Finishing and Weighting Agent

Announcement of a new finishing and weighting compound for cotton, rayon, wool, and other fabrics has been made recently by Lyonset, Ltd., 55 West 42nd St., New York, exclusive sales agents for Allied Chemical Mfg. Co. This compound, known as Lyonset No. 101, is said to increase the weight of the fabric from 15 to 20%; give body and strength to the cloth without boardiness; improve hand and drape; and augment resistance to slippage. It is stated further that the effect is permanent, the finish not being removed by washing or dry-cleaning. Other advantages cited include quick and simple method of application; solution is applied cold in usual equipment and process does not require baking or other heat treatment; absence of coating effect on the fibers; fabrics can be dyed or printed subsequent to application of weighting compound; compound can be used on wide variety of woven and knitted fabrics of cotton, wool, continuous-filament and spun viscose and acetate rayon, and blends.

Lyonset No. 101 is sold as a concentrated liquid which is diluted with water. The cloth is first saturated with casein solution in a tank or vat, run through the Lyonset solution, and then washed in a dilute calcium hydrate solution. A special process for cotton and viscose rayon is designed to swell the fibers and increase the strength of the cloth.

The trade name "Lyonized" has been registered in the U. S. Patent Office, and users of Lyonset No. 101 will be granted the right, under certain condition, to brand products treated with it with that name if they so desire.

Degumming Powder

A new degumming powder for silk hosiery has recently been announced by Laurel Soap Mfg. Co., Inc., Philadelphia. The new product, known as Laurel Degumming Powder No. 433, may be used in either the single or split-bath method with the usual dyeing procedure. The manufacturer states that it gives a quick boil-off, aids leveling of neutral-dyeing acid colors, leaves goods in an elastic condition, and prevents formation of spots in degumming or in the dyebath.

Detergent and Wetting Agent

Formal announcement of a new low-cost detergent has been made recently by E. F. Houghton & Co., Philadelphia. The material, known as Houghton's N-25, is recommended for such applications as scouring, dyeing, soaping-off, boiling-off, and wetting-out. Among the properties cited for this product are: excellent degree of detergency at all temperatures, high sudsing action, and superior wetting-out and penetrating action.

Dyeing Assistant

A supersulphated compound for use as a dyeing assistant and penetrant has been introduced recently by Napthole, Inc., Boonton, N. J. This material, called Quix, is recommended for use in kier boiling cotton piece goods; package dyeing cotton yarns; washing prints of all types; scouring and dyeing raw wool, woolen yarns, carpet yarns, and piece goods; scouring and dyeing knit goods; dyeing viscose and acetate rayon piece goods and yarns, etc. Advantages cited for Quix include excellent penetrating action; easy sudsing in cold and hot water; resistance to hard water, acids, and alkalis; quick leveling action in the dyebath; in combination with soap assists in quicker scouring and faster and more complete rinsing; and prevents scum formation in scouring and dyeing. The new compound is available in a semi-liquid form, which is convenient to use and readily soluble in water.

New Publications

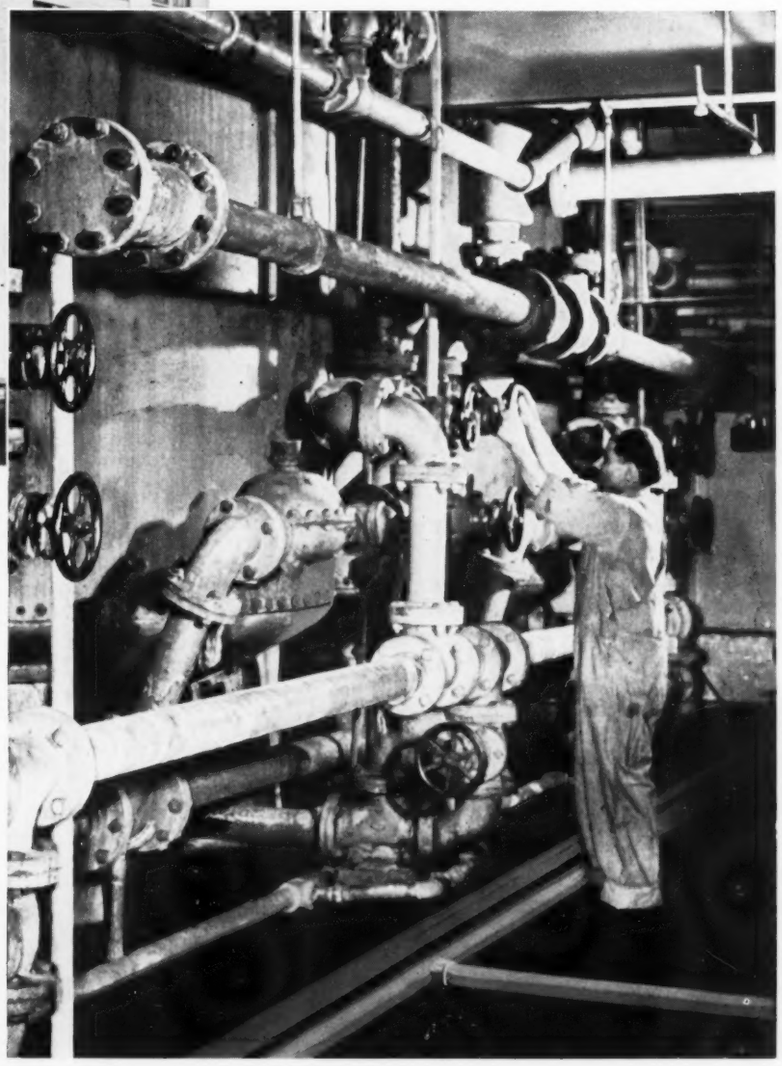
Data on Yarns and Processes

TEXTILE FIBRES AND MATERIALS, by Richard Hunlich, translated by A. J. Hall; Thomas Skinner & Co. (Publishers) Ltd., 1 Broadway, New York; $2.50.

This is a translation into English, apparently from German. Both translation and publication have been made in Great Britain. In so far as the average American reader is concerned, the book is deficient on two counts. First, much of the material relates directly to the textile industry of Germany alone. Second, British terms are used for the various processes; these, in some cases, are not those in common use in this country, and may prove confusing. In addition, the illustrations show mostly machinery of foreign manufacture, rather than that with which American textile men are familiar.

With these shortcomings borne in mind, it may be said that the book contains considerable worthwhile information. A wide variety of names, terms, and subjects are briefly described and illustrated with diagrams,

PERMUTIT water softeners at Brooklyn, N. Y., plant of Julius Kayser & Co. have been in use for 27 years. Today, Kayser has 6 other plants in the United States and Canada, and has Permutit equipment in all.



Quality protected at all 7 Kayser mills by

PERMUTIT WATER CONDITIONING

Gloves, hosiery, underwear . . . the name of Julius Kayser & Co. belongs among the first on any list. Consistent good quality . . . plus consistent good advertising, has made the name known and respected by consumers and trade alike.

One big factor in the quality of Kayser products has always been Permutit Water Conditioning. Used in the Brooklyn, N. Y., plant since 1913, the original Permutit equipment supplies 375,000 gallons of soft water per hour. It is still in good condition and giving satisfactory service.

By dyeing silks, rayon, and now nylon in Permutit Softened Water, Kayser reports a more uniform product is produced, and both dyes and soap are saved. In the processing of silks, soft water saves soap in the degumming process and produces a softer, more lustrous fabric. In addition to these processing uses, Permutit soft water is also used to prevent scale in the steam boilers in Kayser's Brooklyn plant.

FREE BOOKLET. Write for information on Permutit's new Fully Automatic Zeolite Water Softeners and Filters—the most compact and efficient ever designed. Address The Permutit Company, Dept. B, 330 West 42nd Street, New York.

PERMUTIT

WATER CONDITIONING *Headquarters*

sketches, and photographs. Part I discusses the origin and production of raw materials, including mineral and synthetic fibers. Part II covers production of yarns; of woven, knitted, and lace fabrics; and fabric dyeing and finishing. Part III is concerned with fiber identification and detecting and remedying damage to textile materials.

Economic Planning for War

MOBILIZING CIVILIAN AMERICA, by Harold J. Tobin and Percy W. Bidwell: Council on Foreign Relations, 45 East 65th Street, New York: $2.75.

This is one of those rare examples of perfect timing. The book appeared just as the country was discussing this subject morning, night and noon.

It is a penetrating study of how our democracy can use its resources most efficiently in event of war. The authors recount authoritatively our experience with economic planning in the last war, and trace the subsequent evolution of the War Department's Plan for Industrial Mobilization. The plan is critically examined to discover how far it can guarantee economic efficiency without sacrifice of our civil rights and our system of private enterprise. It offers a straightforward account of what war would mean to civilians at home.

Testing Fibers, Yarns and Fabrics

TEXTILE TESTING: John H. Skinkle, Chemical Publishing Corp., 148 North Lafayette St., New York: $3.00.

Information on textile testing methods employed in this country is scattered throughout the literature and hence not readily available to mill technicians or others. Hence, this text and reference book should prove a welcome addition to the libraries of all those engaged in testing textiles. The book is divided into three sections—physical testing, chemical testing, and microscopical testing.

A K.O. for Cotton

THE WHITE SCOURGE, by Edward Everett Davis: The Naylor Co., San Antonio, Texas: $2.25.

Occasionally we find a book which is so fanatically biased that in its fanaticism it misses the boat. This is such a book. In vituperative phrases the author damns cotton from first to last. Upon the cotton plant he places the blame for all the ills of the southern poor-white. He sets up the theory that the latter class is the result of cotton itself and ignores the fact that the poor-white is neither a regional nor an agricultural product but part of our national economic problem.

Granting that the tenant cotton farmer has a hard life, it seems rather absurd for the author to place the blame on the crop instead of the system. And one is discouraged to find he keeps a closed mind as to any possible remedy for the latter.

The White Scourge is neither interesting, constructive nor well-written. And it's too bad, for this reviewer expects better things from the dean of the North Texas Agricultural College.

"There Just Wasn't Any"

FREEDOM OF THOUGHT IN THE OLD SOUTH, by Clement Eaton: Duke University Press, Durham, N. C.: $3.00.

One wonders at the irony of the title as one reads this book. The author has covered the "thinking" South from class level to class level, and over a period of more than two centuries. He analyzes the views—and the reasons therefor—of aristocrats, lawyers, politicians and the press. And, after pointing out the liberal views of the early aristocrats, he tells why the great traditions of the Jeffersonian epoch broke down in the first half of the 19th century.

One is appalled at the manner in which the subject of abolition smothered the art of liberal thinking, and harassed the South into reactionary viewpoints which still are in evidence there. For there is no doubt, according to this book, that abolition dominated thinking as well as doing in the South for nearly a century.

Mr. Eaton has given us a scholarly work: one that explains much that happened in the old South and a great deal that is the basis of struggle in the new South. He points out that there may have been Freedom of Thought in the old South, but in the so-called antebellum South—well, there just wasn't any.

P. S.—This review is by a southerner.

Handling Stainless Steel

FABRICATION OF U.S.S. STAINLESS STEELS: United States Steel Corp. Subsidiaries, Pittsburgh, Pa.: $1.

The three comprehensive sections of this book discuss in detail the technical and practical aspects of stainless-steel fabrication. Part I is devoted to welding, riveting, soldering, and joint design. Part II takes up machining, cutting, forming, annealing, and pickling operations. Part III discusses surface finishing and protection, describes standard mill finishes and the operations and equipment involved in developing finishes. Laboratory corrosion data covering a wide range of chemicals and acids are presented for four types of U.S.S. stainless steels.

News of Suppliers

Leighton Machine Co., Manchester, N. H., is sending a request to all mills possessing any Leighton circular knitting machines to report their serial numbers to the home office in Manchester in order to facilitate service.

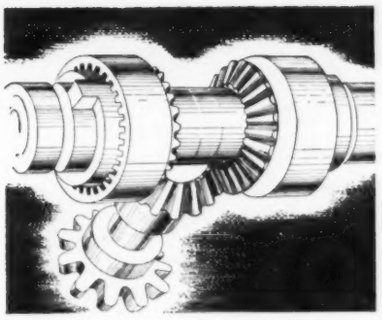
United States Testing Co., Hoboken, N. J., passed a resolution honoring Ramsey Peugnet on his completion of 30 years continuous service as an officer of that company and 41 years of service to the silk and textile industry. He has been secretary of the company since 1910 and treasurer since 1914. He was for many years secretary of the Silk Association of America.

American Viscose Corp., New York, is conducting a prize essay contest "to develop more complete knowledge of Crown-tested rayon among the sales personnel of retail stores."

Scott & Williams report net profits for 1939 of $214,485, against net loss of $5,689 in 1938. Sales last year were $2,995,283 against $1,640,003 in the previous year. Ralph E. Thompson, president of Reed-Prentice Corp., Worcester, Mass., and newly-elected president of Scott & Williams, Inc., Laconia, N. H., will maintain office at 50 Congress St., Boston.

J. J. Ferris, formerly general manager Dings Magnetic Separator Co., now heads up the Magnetic Engineering & Mfg. Co., Clifton, N. J., engineers and builders of "High Power" magnetic equipment, and a new line of pulleys and separators. George Stinsman, of Atlanta, Ga., is associated with this company as southern representative. Mr. Stinsman also represents: Sterling Electric Motors, Inc., Los Angeles, Cal., Robins Conveying Belt Co., Passaic, N. J., W. A. Jones Foundry & Machine Co., Chicago, and Ajax Flexible Coupling Co., Westfield, N. Y.

Beach Soap Co., Lawrence, Mass., has purchased the inventory, trade names and good will of George E. Marsh Co. and Lysander Kemp & Sons Corp. from the Consolidated Rendering Co. Beach will continue to manufacture the present Marsh and Kemp



PRECISION

Precision is, as precision does—

The SONOCO Cone is precision made to do a precision job—and it does.

Heavy machines weighing thousands of pounds, and set to hair-line accuracy, produce paper carriers at Sonoco with same degree of uniform nicety as the gears in your car —paper carriers that *work,* in conjunction with the precision machinery on which they run.

SONOCO MAKES *EVERYTHING* IN *PAPER CARRIERS*

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DEPENDABLE SOURCE OF SUPPLY

SONOCO SERVES THE WORLD PAPER CARRIERS

William Allen Sons Co., Worcester, Mass., has completed one of the largest stainless steel kiers on record. The unit is 12 ft. high, 10 ft. in diameter, and can handle a maximum load of 12,000 lb. of cloth per boil. The shell is 1/4 in. thick and is made from Enduro stainless steel, produced by Republic Steel Corp.

brands of soap from the Beach plant in Lawrence, Mass. C. F. Mudgett, superintendent of the Marsh company, will transfer to the Beach Soap Co. The eastern sales representatives, Alfred Cowan, Frank E. Allen and Fletcher S. Lawson will become a part of the field personnel of either the Beach Soap Co. or that firm's parent, Cowles Detergent Co. The Beach company, through its southern representative, J. C. Robertson, has appointed Paper Makers Chemical Division of Hercules Powder Co., Atlanta, Ga., as its Georgia distributor.

E. F. Houghton & Co., Philadelphia, in honor of its 75th anniversary, has presented gold service emblems to 324 men and 77 women among the employees who have long served this company. Of these, 110 men and 39 women have been employed from 10 to 20 years; 30 men and 15 women from 20 to 30 years, and six men for more than 30 years. The company pioneered in the commercial uses of petroleum. In 1900 it developed a research department to study the requirements of processing in various industries. At first, staple oils were marketed to the industries, but the lack of uniformity of such oils when adapted to specific purposes was soon apparent. During the last 40 years, many specialized products have been initiated and developed by this company. Major A. E. Carpenter is president.

General Electric Co., Schenectady, N. Y., has appointed Robert Peare to head its advertising department succeeding Chester Lang who has been made manager of industrial apparatus sales. Mr. Peare has been manager and president of Maqua Co., printers to General Electric.

Grinnell Co., Inc., Providence, R. I., has appointed James D. Fleming as vice-president and sales manager. He has been vice-president and manager of the Grinnell Co. of the Pacific, a subsidiary, which he will continue to manage from the company's home office at Providence, R. I.

Morse Chain Co., Ithaca, N. Y., has opened a new branch office at 1418

Bob Koch, in charge of new Morse Chain Co. branch at Houston, Tex.

Polk Street, Houston, Texas, in charge of Bob Koch, who comes to Houston from the home office at Ithaca, where he held the position of assistant sales manager for the last five years.

Hatch Textile Research, New York, N. Y., celebrated its 14th anniversary

The new seal of certification adopted by Hatch Textile Research

in the textile testing profession on May 1. At that time, the firm adopted a new seal of certification illustrated herewith. Herbert Harriman Hatch is president of the organization.

Hydronapthene Corp. announces the granting of licenses to the Onyx Oil & Chemical Co. for production and sale of sulphated fatty acid amides under U. S. Patent No. 1,918,373, and for production and sale of sulphated fatty acid esters under Patent Nos. 1,823,815, 1,918,372, 2,032,313 and 2,032,314. The sulphated fatty acid amides are sold by Onyx under the name "Xynomines," and the sulphated esters of fatty acids, under the name "Phisol."

Dayton (Ohio) Rubber Mfg. Co., Textile Products Division, has opened a southern district sales office in the Woodside Bldg., Greenville, S. C., in charge of J. O. Cole, sales head for this division of the company.

Procter & Gamble Co., Cincinnati, Ohio, was host to members of the Industrial Research Institute, New York, when that body held its annual meeting in Cincinnati, April 26 and 27.

On the links between sessions of the Cotton Mfrs. Assn. of Georgia at Sea Island last month, left to right: E. F. Cook, president, Batson Cook Co., West Point, Ga.; M. A. Williamson, vice-president McGraw-Hill Publishing Co., New York, publisher of TEXTILE WORLD; Harry Coley, president, Howard Bros. Mfg. Co., Worcester, Mass.; M. M. Trotter, vice-president, Callaway Mills, LaGrange, Ga.

"... and now a better packing for a better needle."

ADVERTISING REMOVED

Industrial Rayon Corp.'s exhibit at Western Reserve University, Cleveland, commemorating "One Hundred Years of Progress Through Chemistry in the Connecticut Western Reserve." Youngest of the large chemical industries in the Western Reserve originally settled by pioneers from Connecticut, Industrial Rayon is now one of the two largest chemical concerns in the area.

F. W. Blair, chemical director of P. & G., and member of the institute's executive committee guided the group through the Procter & Gamble Research Laboratory and plant at Ivorydale.

General Electric Co., Westinghouse Electric & Mfg. Co. and **Hygrade Sylvania Corp.** have made price reductions on Mazda lamps, fluorescent lamps, projection, floodlight and other special service lamps, effective June 1. G.E. states that the new list is that company's 20th major price reduction in lamps in the last 19 years.

Manning, Maxwell & Moore, Bridgeport, Conn., have transferred their representative, J. F. Wade, from Greenville, S. C., to Charlotte, N. C. where he will make headquarters at the Hotel Charlotte. Paul Hayden, who formerly represented the firm in Charlotte, has been assigned to Birmingham, Ala.

Erick-Gross Corp., New York, now represents the Collins Loom Works of Amsterdam, N. Y. on its high-speed tricot machine. This corrects a typographical error in Collins' address as printed in this department last month.

Steel Heddle Mfg. Co., Philadelphia —J. J. Kaufmann, Sr., president, was guest at a banquet in Washington in April, celebrating the 150th year of the U. S. Patent Office. He has 100 patents.

Milligan & Higgins Corp., New York, has appointed C. J. McCormick to represent it on technical gelatines in the South with office at Greenville, S. C.

Emmons Loom Harness Co., through Clifton E. Watson, southern sales manager, Charlotte, N. C., has appointed Arthur W. Harris of Harris Mfg. Co., Atlanta, Ga., as agent in Alabama, Georgia, Louisiana and Mississippi for all products except reeds.

Correction

The two items which follow are reprinted in corrected form. They appeared in the April issue of TEXTILE WORLD on page 84, erroneously consolidated as one item:

National Oil Products Co., Harrison, N. J., has re-elected Charles P. Gulick, one of the founders of the company, as its president after a two-year absence from that post. Mr. Gulick will also serve as chairman of the board. He succeeds John H. Barton who retired as president on Mar. 1.

National Starch Products, Inc., New York, announces that Chester A. Gage, vice-president, and, for the last 15 years manager of the midwestern division at Chicago, has been named vice-president in charge of sales, and has joined the company's New York executive staff. Milton J. Heim, manager of National's central division at Philadelphia, has succeeded Mr. Gage at Chicago. Donald D. Pascal, head of the service department at New York, has succeeded Mr. Heim at Philadelphia. Philip M. Liner, who for many years has covered the southern New England States in a supervisory and sales capacity, has been appointed manager of National's New England division at Boston.

I. H. Verry Honored

Irving H. Verry, vice-president and sales manager of the Crompton & Knowles Loom Works, Worcester, Mass., was guest of honor at a testimonial dinner, May 27, in recognition of the completion of 50 years of service with the company. John F. Tinsley, president of the company, was toastmaster, and guests included B. H. Bristow-Draper, president of the Draper Corp., and E. Kent Swift, president of the Whitin Machine Works. Mr. Verry

Irving H. Verry, vice-president, Crompton & Knowles Loom Works

joined the Knowles Loom Works on May 26, 1890, as assistant in the drafting room. He was transferred to the sales department in 1900 and given charge of sales of narrow fabric and silk looms in 1902. In 1917 he was named a vice-president, and in 1935 became general sales manager. A volume of testimonial letters from friends throughout the industry was presented to him at the dinner.

Open House at Chicago Steel Plant Marks Opening of New Building—Joseph T. Ryerson & Son, Inc., was host to 3,000 visitors on May 11 when their customers were shown the facilities and services now available to them.

THE OVERSEERS' CORNER

A PETE AND BILL DISCUSSION

COMPANY PICNICS

Bill, who usually resembled a first-class sourpuss on Monday, was particularly cheerful at the beginning of the week. He even forgot to swear at his "poor-running Monday work," a regular procedure which inspired both awe and admiration in bystanding employees. Pete took one look at the situation and marveled at the transformation. Nearby employees appeared to be a little disappointed but hopeful that Bill would not let them down.

"What's the matter, Bill?" asked Pete curiously. "Sick or something? I never saw you so cheerful before in all your life, especially on Mondays."

"Guess I do feel pretty good, Pete. Maybe it's the bright summer weather, or maybe it is that big bass I caught Saturday afternoon. . . . or maybe it's because I've been looking forward to the company picnic next week end. That's one extra expense of the company I thoroughly approve of. Does more good than all the high-pressure personnel managers in the world. Just plain good fellowship and plenty of fried chicken. Wish we did more of it!"

"Nuts, Bill," Pete almost sneered for once in his life. "You sound like a sap. To me, that's one thing I could do without. I'll be there of course, because the old man wants me to be there, but it'll be with my tongue in my cheek. Don't you know that's what modern personnel managers call paternalistic? The workers don't care about those great big company

Nearby employees appeared a little disappointed

parties. All they want out of this company is a reasonable wage and steady work. But they'll all be there just like me—because they're afraid not to be there."

"You're the one who's crazy, Pete," spluttered Bill, bridling at the challenge. "Why, I've been going to company fishfrys and barbecues for 30 years. I know the employees enjoy them. Builds up good relations, I say. Everybody likes to get together with his fellow workers, and everybody likes to see his boss let his hair down occasionally."

"Maybe you're right, Bill, but I think the worker thinks the whole thing is a big bore and is laughing behind the backs of all the bosses who are trying so hard to be good fellows once a year."

Are company sponsored parties good employee relations?

Letters From Readers

Key Men and Dividends

Editor, Overseers' Corner:

The golden age of prosperity has passed, and with it has gone the "long distance telephone executive" who invisibly ruled from some far away office by calculating factory reports and estimating the value of this or that move by means of written correspondence from the firm's main office. Today, the business man who pays dividends cannot be content to merely turn over the sod; instead he must "dig-in" and see beneath the outer surface of his organization.

The inner mechanism of all plants is the "Key Men" who head the various departments. Herein is the spot where profits or losses take on a physical form. The key men rub shoulders with the workers who produce the actual manufactured product, and on whose shoulders lie the responsibilities that are even too small to be recorded but are destructive if carelessly and indifferently handled.

If you do not know your key men, you are a stranger in your own organization and you have only scratched the surface of your firm's possibilities. In every large organization there are key men who form the very backbone of the company by applying their long years of experience to actual productive elements. Their loyalty, organizing ability and their genuine interest in the job pays dividends. On the other hand, when a key man becomes overly satisfied, it means that he has exhausted his own ideas and his own possibilities. In short, he has stopped thinking, his worries have ceased and his routine method of doing things becomes slipshod. Workers within his group are capitalizing on his lack of initiative by becoming routine in their own jobs.

Stream-lined machinery may be your idea of bigger profits but the truth of the following statement is worth considering: "It takes many bolts to make a new stream-lined automobile, but it

CONTRIBUTIONS to the letters and practical helps in "The Overseers' Corner" are paid for when published without regard to length. We use letters (not over 200 words) discussing the material on this page or any other pertinent matter whether of mechanical, managerial or just plain human interest. Those who contribute practical helps or kinks which are published (not over 500 words) will be paid additional for an appropriate sketch to illustrate their device. It is not necessary to submit finished drawings. Contributions of greater than specified length may be given consideration as articles. If these pages interest you —contribute something to them to interest others. Address Editor, Overseers' Corner, Textile World, 330 West 42d St., New York.

only takes one nut behind the steering wheel to scatter it all over the road in pieces."

If you are not paying dividends—investigate your key men, analyze those that are capable of standing on their own feet. And if they are real producers, do not limit their salaries or their positions, because they may be your untested asset. Complete unity and unlimited opportunities for financial gain among your key men may be your answer to bigger dividends because when you have thoroughly won a key man's loyalty it is surprising how many previously unthought of ways he can find to cut down expenses that otherwise would have gone by unnoticed by the management.

D. B. J. (*Massachusetts*)

Anti-Friction Bearings in Spinning Mills

Editor, Overseers' Corner:

I read with great interest the article "Your Power Bill," by Edwin M. Clapp, in the May, 1939, issue of TEXTILE WORLD. All spinners, as well as others, in the textile trade, should concentrate on the kilowatt hours per pound of goods produced, rather than merely obtaining figures on costs incurred in consuming so many units of power. The economical consumption of power is of utmost importance in the manufacturing industries. Since the spinning department consumes nearly 40 to 50% of the power generated, it must be well looked after. The advantages from use of anti-friction bearings in a spinning plant are reduction in power costs, a huge saving on the lubrication and maintenance of machinery parts, and cleanliness. A large amount of the spinning room power can be saved by employing anti-friction bearings on the ring spinning frames. Careful investigation of the results achieved will prove that the initial small expenditure incurred, either on new purchases or for renewing old frames, with up-to-date anti-friction tape drive, will be quickly recovered from the savings. It is the kilowatt-hour per pound of goods produced that matters in the end.

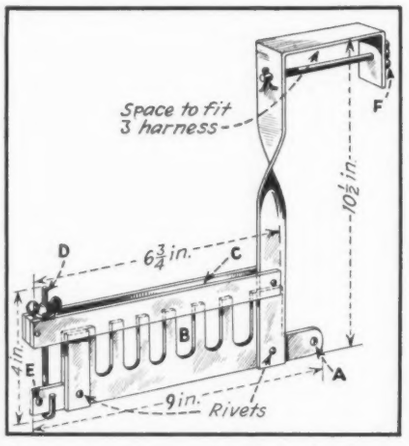
—RUSI D. BANAJI (*India*)

Overseers' Practical Helps

Moving Warps With Drop Wires

Moving of warps with drop wires can be more easily and conveniently accomplished by using a set of drop-wire harness-brackets made from $\frac{1}{8}$ x $\frac{5}{8}$ in. flat stock, as shown in the accompanying sketch.

Two brackets of the type shown are needed, one for each side of the harness. The brackets are attached to the last three harness frames and nut *F*



Drop wire harness-brackets facilitate moving of warps

tightened. A string is fastened to *A* and run under the warp to the bracket on the other side of the loom. The rods that the drop wires are on are now placed in grooves *B*. Lever *C* is pushed down into position, threaded hooks *D* are turned into place, and the wing nuts drawn tight. A second string is then fastened to hole *E*, run underneath the warp ends, and fastened to the similar hole in the opposite bracket.

After a final check, the weights can be removed and the warp taken out of the loom. However, it must be remembered that the weights should not be removed until drop wires and strings are properly fastened.

—PETER C. WAYNER (*Mass.*)

Shaft Alignment

The method of lining-up shafting, described by Charles L. Hubbard in the March, 1940, issue of TEXTILE WORLD, appears to be a good one. However, it seems to the writer, since standard shaft dimensions are $1\frac{15}{16}$, $1\frac{3}{16}$, $1\frac{7}{16}$ in., etc., it would hardly be worth while to calibrate the measuring V fork. Common calipers would give a more accurate reading, and the V fork could be used against odd diameteres without confusion. Modern shafting has close dimensions, and is made in sizes $1\frac{15}{16}$ to $4\frac{15}{16}$ in., varying by $\frac{1}{4}$ in. for each size.

Mr. Hubbard's sliding scale is approximately correct for all $\frac{1}{4}$-in. variations in shaft diameter. It has twelve spaces in $2\frac{1}{8}$-in., or 0.1771 in. for each space. This $2\frac{1}{8}$-in. equivalent for 3-in. variation in shaft diameter closely approximates the actual of 3 in. x 0.7071 (4 place) sine of 45°, and is 2.1213 in. Dividing this by 12, we obtain 0.176,775 in., vs. 0.1771 in.

Now, if we are to use the graduations on the sliding scale, it is important that they be accurately marked. May I suggest fastening the slide on a cold rolled steel bar, holding it in a vise on a milling machine table and cutting the graduation marks with a V-cutter or a thin cutter, preferably with a cutter the thickness of the wire to be used for leveling. Since the actual is a trifle less than 0.1771 in. as shown, we can best move 0.177 in. on the cross-table feed, after each milling cut on the sliding scale.

Where the line of shafting is long, it seems best to hang the level on the

Safety for Spooler Tenders

The safe spooler tender avoids injury while working around machinery by doing the following:

1. He examines his machines when he starts to work to see that all guards are in place and everything working properly. He reports all things that need repair to his second hand.
2. Before starting any machine he always see that no one is working on same.
3. He avoids oiling, adjusting or repairing any machinery that is in motion.
4. He is particularly careful when working around belts, and does not try to shift moving belts by hand; he uses a stick or some tool handle.
5. He wears the proper protective clothing for his job.
6. He keeps the floor around his machines free of tools, bobbins, quills or any other unnecessary material.
7. He uses care in lifting and in handling trucks or boxes.
8. He is careful when taking off full cheese and putting on new starters to avoid getting his hands burned or injured. He always looks to see that cheese is not in the act of coming over before placing his hands for taking off same.
9. He watches the pull wire next to cheese being taken off so it will not hit fingers. In case it should, he is ready to pull over at same time of placing on new starters.
10. He always makes sure that starters are on tight.
11. He is careful to avoid getting splinters in his hands from quills or bobbins.
12. He watches the traveling knotter and does not work in too close to it.
13. He avoids hurrying and he keeps his mind on his work. He reports all unsafe conditions and practices to his second hand.
14. He walks down stairways slowly and uses hand rail. He does not run for any reason.—National Safety Council.

center of the wire, so the sagging of the wire will not affect the reading of the level. It is the safest place to use it for any length of wire.

After the end bearings are located, and the shafting is aligned in the vertical plane, on a long line of shafting, it might be better to work from one end, and level by sections, since the wire would sag less. Also, if the shafting in any section is all of the same diameter, one could work to the top of the sliding scale, and there would be no danger of setting a bearing to the wrong graduation.

As all shaft diameters are in 16ths of an inch for standard sizes, the figure 16 may be eliminated when marking the sliding scale. Thus, markings will be 15, 1/3, 1/7, 1/11, 1/15, etc. These markings will be easier to read than the full 16th markings.

WALTER A. SIMOND
(Franklin, N. H.)

Highlights of S. T. A. Meetings

Spinning, weaving, and finishing problems discussed at technical sessions

OPERATING PROBLEMS involved in oiling of cotton, handling dyed stock, long-drafting, warp preparation, weaving, and finishing were considered at recent meetings of various sections of the Southern Textlie Association. Following is a resumé of the technical discussions of those subjects at meetings of the Eastern Carolina, Piedmont and South Carolina Divisions.

Handling dyed stock and oiling cotton in process were the two major topics discussed at the meeting of the Eastern Carolina Division, held at Raleigh, N. C. J. B. Batton, Sr., superintendent, No. 2 Mill Rosemary Mfg. Co., Roanoke Rapids, N. C., presided. The technical discussion was led by W. H. Miley, superintendent, Erwin Cotton Mills Co., Durham.

There was considerable difference of opinion as to whether or not colored raw stock is more difficult to run than white stock. P. B. Parks, Jr., superintendent, Mill No. 5, Erwin (N. C.) Cotton Mills Co., said that he finds colored stock as easy to handle as white cotton. He uses cork rolls and has long-draft spinning. Most of his colors are sulphur, plus a few developed reds. The majority of members agreed that often the action of chemicals in the dyes tends to weaken the fibers, and in many instances all the chemicals are not washed out, which may cause trouble. Another factor which makes running dyed stock difficult is that the natural oils and waxes are removed from the cotton. J. E. McGee, assistant superintendent, Rosemary Mfg. Co., said that on damp days dyed cotton gets a little heavier, but that he has little trouble from cotton dyed with direct dyes. He washes off the stock with an oil which reduces shedding and seems to improve the work.

Where sulphur colors are used, it is vital that all of the surplus dye be washed out or it will destroy the fibers by forming an acid. G. M. Gurley, reported that he has trouble with stock-dyed tan, which tends to run heavy. Draft must be changed two points to compensate for this. A. B. Lyles confirmed this and added that he has trouble with many other colors, which forces him to vary his draft considerably. The trouble seems to be beyond the roving.

When stock-dyed yarn suddenly becomes uneven, Mr. McGee said that he would check his water supply first for hardness. Mr. Parks would go to the opening room and find out if the carder had made any changes in the amount of oil going in the stock. Next, he would check up to see how well the cotton is dried, since moisture variation can cause a quick change in yarn numbers. The only system of determining the condition of dyed stock, according to Mr. Parks, is simply to feel it when it is running good and use this as a standard.

Mr. Gurley said that in making 14.5s yarn from colored stock, he uses 40% relative humidity, as against 50% for white work. E. F. Burns, Durham (N. C.) Hosiery Mills, remarked that he finds it extremely helpful to age dyed stock in a bin for at least a week before putting it on the lappers.

D. F. Burns, superintendent, Mill No. 6, Durham (N. C.) Hosiery Mills, reported that the chief advantage he finds in using oil on raw cotton is that it holds down dust in the card room. B. F. Aiken, overseer of carding, Mill No. 5, Erwin (N. C.) Cotton Mills Co., reported that he uses oil on all cotton, colored and white, and gets good results, particularly in carding. The cards strip better, and the oil settles the dust and reduces static electricity to a minimum. He applies 0.2% oil in the blending hoppers. Mr. Aiken formerly applied the oil in the mouth of the conveyor pipe between the opening room and picking room, but found that it is better to blend it directly in the hopper —sprayed on top of the lap behind the feed roll behind the beater, and not in the beater chamber. This gives the oil time to penetrate the cotton before it gets to the cleaning chamber. Mr. Parks said that at one time he tried oil in a vertical opening machine, but it gummed up the bars. Next, he applied oil to the delivery apron of the cleaning unit after the cotton was cleaned but before it went into the conveyor line. This practice was much better; but finally he hit on putting it in the bale breaker before the cotton goes into the vertical opener, which gives about the same beneficial results as putting it into the blending hoppers.

Oil is especially helpful where the natural oils have been removed or in running cotton from arid regions of the West. In response to a question as to use of oil on green cotton. Mr. Aiken replied that there is a tendency to put too much oil on green cotton which is "a little slippery anyway."

D. F. Lanier, superintendent, Oxford (N. C.) Cotton Mills, stated that use of oil gummed up the bars and screen of his cleaning equipment until he changed from pressure spraying to "wiping" it on the cotton. This is done, according to D. E. Long, by means of a gravity feed to a little square brass bar which runs the length of the beater chamber, set close to the beater and arranged with little hair-line wires so that the oil will gradually seep out into the cotton as it comes from the feed rolls. He said that applying oil in this manner makes it possible to allow the humidity to go up to as much as 85% without lapping up. Mr. Lanier added that 0.4% oil is used, which makes the stock run well but seems to "sort of pack the foundation of your rolls or something" causing a crease where the stock runs. Mr. Miley commented that he thinks 0.4% oil is high, having found 0.3% too much in his own plant.

A. R. Marley, cited an extensive test run over a period of a month and carried all the way through spinning and spooling. Of 500 sizings and breaks noted, the oiled cotton showed greater evenness and breaking strength, but the chief advantage of the oil was keeping down fly in the card room.

Several members agreed that the farther back the oil is applied to the cotton the better the result will be. Consensus was that the use of oil tends to reduce the amount of visible waste, which obviously means more potential profit for the mill.

LONG-DRAFT ROVING—G. M. Gurley reported that he gets more variation in yarn made from long-draft roving than conventional draft. In spinning singles, his variation on 14.5s yarn is about

twice that of conventional draft roving, amounting sometimes to 2½ numbers. G. E. Moore remarked that he had the same trouble, but in checking back found that it was primarily the fault of the operative, who did not put the ends up properly in back of his roving machine. After correcting this, he found the weight to be better, the spinning better, fewer ends down, and less variation. W. T. Byrd backed this up and spoke highly of long-draft drawing, asserting that he gets about one number variation. Mr. Parks added that the main problem is to learn to properly operate the long-draft equipment, because little things can cause a great deal of trouble, such as a tiny error in the weighting of the top roll.

SPINNING TAPES—J. L. James, superintendent, Mill No. 1, Erwin Cotton Mills Co., Durham, said that the lighter spinning tape gives him an increase of about 200 r.p.m. on the spindles and about 9% savings in power. D. E. Long said that he gets one-third more life out of his tape since he changed from machine lap splicing to the use of a metal clip with raw-hide pin.

W. H. Miley was elected chairman of the group. George Gilliam, superintendent, Franklin (N. C.) Cotton Mill, was named vice-chairman, and D. E. Long, overseer of carding and spinning, Oxford (N. C.) Cotton Mill became secretary. Robert Burn, superintendent, Harriet Cotton Mills, Henderson, N. C., was elected to the executive committee.

WEAVING AND ALLIED PROBLEMS were discussed by the Piedmont Division at its recent meeting, held at Charlotte, N. C. B. M. Bowen, superintendent of Salisbury (N. C.) Cotton Mills, chairman, presided. P. B. Parks, Jr., superintendent of Erwin Cotton Mills Co., Plant No. 5, Erwin, N. C., and president of the Southern Textile Association, led the technical discussion.

The first question dealt with life expectation of shuttles. A. W. Benoy, assistant manager, Consolidated Textile Corp., Shelby, N. C., said that on print cloths and broadcloths the average shuttle lasts his mill about 3,300 hours. J. C. Williams, superintendent, Shelby (N. C.) Cotton Mills, reported that on pajama checks and sateens he gets around one year's service from shuttles on two shifts, but he does not get that much wear from shuttles on heavier constructions. W. F. Wellman, overseer of weaving, Salisbury Cotton Mills, mentioned several other factors which enter into the life of a shuttle: preparation of the yarn, condition of harness, gouts or broken ends in work, etc. He advocated purchasing the best harness and strapping possible. Chairman Parks added that on heavy work the knots are larger and the ends through the dropwire do not seem to fall so fast as on lighter work.

Mr. Parks warned that in replacing a loom part, sometimes it is inadvisable to use a piece that is "too strong" because it may cause the loom to break in some more inaccessible spot. That is, certain minor parts may be made weak deliberately in order to take a sudden strain, which might do much more damage elsewhere.

J. L. Brannon, overseer of carding and spinning, Hermitage Cotton Mills, Camden, S. C., raised a question concerning the material from which sprocket gears on loom motors are made. Several members reported that they find it advisable to run steel on cast iron, since this combination does not wear as much as steel on steel or cast iron on cast iron. In some instances fiber instead of steel pinions are used with the cast-iron motor gear, but this is rare.

F. W. Warrington, of F. W. Warrington Co., Charlotte, discussed the new starch cooking arrangement in use at Jackson Mills. This device was described in the November, 1939, issue of TEXTILE WORLD.

Mr. Brown, of Cramerton (N. C.) Mills, Inc., said that in changing number of harnesses it is helpful to realign the harness every time the number is changed in order to get the most wear from shuttles. The reed is usually re-aligned also. Mr. Williams said that he finds it helpful when using three harnesses to level the two front harnesses with the third, as close as possible to the raceplates without touching. Chairman Bowen added that it is important to purchase cams in sets so as not to have them in different sizes.

It was agreed that a positive-drive creel might be of some advantage on a slasher where fine yarns are being slashed, but that it might be a disadvantage where heavy yarns are used, which must be pulled tightly against the cylinders. Marshall Dilling, secretary and superintendent, A. M. Smyre Mfg. Co., Gastonia, N. C., pointed out that this same principle would apply to the use of positive drive almost anywhere in the mill.

Speaking of high-speed warping, Mr. Brannon said that he finds it advisable to use warpers which pull the yarn off the end of a cone, rather than the older type which rolls it off a cheese. It was agreed that any yarn pulled off the end of a cone is under less strain than that pulled off a package which has to rotate. Chairman Bowen pointed out that sometimes it is necessary to use a little heavier yarn with a high-speed automatic warper in order to compensate for stretch and keep up the weight of the cloth.

In weaving cloth to be Sanforized, consensus was that a weaver does well to keep cloth width within ¼ in. This variation in width was said to be due to difference in sley, uneven tension on the let-off, crowded threads in the selvage, etc. E. W. Campfield, overseer of weaving, Alexander Mfg. Co., Forest City, N. C., said that he checks up on loom tension each shift by calipering the pick gear, feeling the cloth to see if it has the right tension, and inspecting the selvage to see if it is drawn in properly.

B. M. Bowen, was reelected chairman of the group. New directors named were W. P. Cargill, general superintendent, Pee Dee Mfg. Co., Rockingham, N. C., and J. Manning Bolt, general superintendent, Chadwick-Hoskins Co., Charlotte, N. C.

MUTUAL PROBLEMS of weavers and finishers were discussed in a paper presented by William F. Robertson, general manager, North Carolina Finishing Co., Salisbury, N. C., at a meeting of the Weavers' Section of the South Carolina Division, held last month at Spartanburg, S. C. This was followed by a paper on "How To Keep Down Loom Supply Costs," by Lewis Burgess, of Crompton & Knowles Loom Works, Charlotte, N. C. These two papers are abstracted elsewhere in this issue.

The first formal question dealt with methods of keeping sliding bars in the loom stop motion from clogging up with lint and interfering with action of the drop wires when an end breaks. J. H. Burgess, overseer of weaving, Gayle Plant, Springs Cotton Mills, Chester, S. C., said that he takes out the inside bar on Draper looms, and cleans out the side bar on the inside with a knife blade. J. Manning Bolt, general superintendent, Chadwick-Hoskins Co., Charlotteville, N. C., reported that in some instances he has bored a small hole in the bottom of the bar and made some notches along the sliding bar where it keeps the lint pushed out through the hole. This is not satisfactory in every case, but helps in most instances.

It was reported that cloth on the loom can be kept from bagging by lowering the drive-rod arm and letting off as much pick as the loom takes up, assuming correctly timed harnesses.

Ply-yarn selvages are used in the weaving of cloth, such as poplins, print cloths, jeans, etc., but not in osnaburgs. Mack Chalmers, Ware Shoals (S. C.) Mfg. Co., said that he uses two-ply selvage on 84x92 buff cloth, four on each side. B. F. Swink, overseer of slashing, Drayton Mills, re-

ported that he lays two-ply selvage ends on the loom beam according to the number of yarn; i. e., 52s ply yarn against 50s single yarn. These ends pull off at the same tension as the body warp, being largely controlled from the feel of the selvage against the warp. He lays this yarn in through the warper cones and skips a dent between the singles. J. L. Adams said that tight or loose ends in the selvage can be avoided by varying the number of ends going through the dent, rather than varying the twist, and that the proper number of ends for best results is arrived at by trial and error. Mr. Bolt added that it is advisable to skip a dent between the selvage and main body of the warp in order to compensate for selvage contraction, which is greater than that of the main body of the warp. Proper tension is determined by feel.

Mr. Stutts stated that he finds the first 30 to 40 yd. of selvage tight on a beam (full or partially filled), after which it seems to loosen up. Mr. Coker suggested that the temple be checked and the shed closed slightly. Mr. Allen added that winding and combing-in might cause the trouble.

Threads in a tape selvage of high-sley satin which show a tendency to roll and tangle can sometimes be kept straight by adding tension on the slasher.

F. W. Knoblitt, loomfixer, Drayton Mills, asserted that washboard shuttles are often caused by pickers being out of line. It helps to square the reed with the race board. Mr. Burgess reported that a few years ago a survey, made to determine the cause of this trouble, revealed that one of the main factors was too much tension on the protector-rod spring, which presses the binder against the shuttle as it is being picked out of the box, throwing the end of the shuttle off a little just as it leaves. W. W. Cobb, superintendent, Norris Cotton Mills, Cateechee, S. C., asserted that a cause of washboard shuttles is changing from 7⅜-in. bobbins to 8-in. bobbins. It helps to change the point of the shuttle off center a little away from the cloth nearest the reed. On E-model looms, he finds it helpful to leave the box out in front of the reed for a space equivalent to the thickness of two drop wires. J. O. Thomas, personnel manager, Marshall Field & Co., Spray, N. C., said that on 30-in. looms he believes it inadvisable to use more than an 8-in. stroke, passing from the end of the blade, or to pick earlier than top center. This makes it possible to use less power than when the cam is forced to produce a longer stroke than standard.

Mr. McAllister said that many filling breaks on the change are caused by the small guide or top holder which vibrates against the filling and wears it in two. If the transfer is not given sufficient play it will break the filling on the change. The transfer handle should be set about 6 in., just enough to keep it from going down. Filling often breaks on the change if the lay is not far enough forward when the shuttle leaves.

J. Hamlett Burgess, overseer of weaving, Gayle Plant, Springs Cotton Mills, Chester, was elected new chairman of the section.

Center-Stitched Double Cloths

Extra-filling method finds use in production of heavy, lofty wadded fabrics

By R. A. C. SCOTT

CENTER-STITCHING of double cloths by use of extra filling yarns will now be discussed, following the recent description of extra-warp stitching methods (TEXTILE WORLD, April, 1940, page 61). In the previous article it was pointed out that in center-stitched double fabrics, unlike ordinary double-cloth constructions, the two fabrics do not interweave. Instead, they are bound together by means of extra warp ends or picks which pass alternately from one fabric to the other, and lie between the two when not employed for stitching.

An outstanding advantage of this method of construction is that, when properly done, it eliminates the danger of contrasting colors showing through at stitching points. However, to achieve satisfactory results, good judgment must be exercised in selection of yarns, colors, ends and picks, and in finishing.

Extra-warp stitching is generally preferred over extra-filling stitching because it is less costly, and because of undesirable variations in picks per inch which may result from extra-filling stitching. The extra-filling method, however, is sometimes used in raised or napped fabrics, and the extra picks may serve as wadding as well as stitching yarn.

In joining double cloths with extra center filling picks, three rules should be observed:

1. In stitching the face fabric, raise the stitching picks over face ends where there is a face filling float on each side of the stitching pick.

2. In stitching the back fabric, lower the stitching picks under back ends in places where the back filling is lowered on each side of the stitching pick.

3. Where there is no stitching to be done, raise the stitching picks over all back ends, and lower them under all face ends. Thus, at such points, the picks will float between the two fabrics.

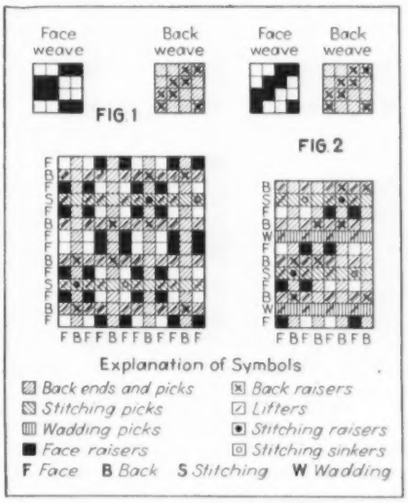


Fig. 1 shows a weave of this type with warp arranged 1 face, 1 back, 1 face, and the filling arranged 1 face, 1 back, 1 face, 1 stitching, 1 face, 1 back, 1 face. The face weave is a 2-and-2 basket and the back weave a $\frac{2}{2}$ twill. The black dots indicate where stitching picks are raised over face ends, between face filling floats, and the black circles where stitching picks are lowered under back ends, between lowered back picks.

A VARIATION of the center-filling-stitching technique is shown in Fig. 2, in which both stitching and wadding picks are included. Use of weaves of this description make it possible to produce heavier and loftier fabrics at very little extra cost since the wadding yarn, in addition to being thicker, can be of a much cheaper type than that used in the balance of the fabric.

In this weave, the warp is arranged 1 face, 1 back; and the filling 1 face, 1 wadding, 1 back, 1 face, 1 stitching, 1 back. The weave of both face and back is a $\frac{2}{2}$ right-hand twill. It will be noted the wadding picks do not at any time weave with either face or back

fabrics, but simply lie between them. To obtain this, it is necessary that face warp ends must always be raised over wadding picks, and back warp ends always lowered under wadding picks. Other than this, the technique used in producing the two fabrics is practically the same.

Pump Governors

Their selection and installation on general-service and vacuum pumps

By JAMES O. G. GIBBONS

DIRECT-ACTING steam-driven pumps are employed widely intextile mills. In most instances governors are, or should be, provided for their control. It is surprising therefore, how little information relating to pump governors is generally available. In fact, many engineering textbooks seem to ignore their existence altogether, and the only information usually at hand is that contained in manufacturers' catalogs.

A pump governor is a pilot-operated reducing or throttling valve. It is designed to give automatic control of the steam operating a pump, so that the required pressure can be maintained at the discharge end. In general, there are two types—constant-pressure governors, and constant-differential governors. Constant-pressure governors maintain a constant discharge pressure, and are installed on fire pumps, water pumps, and other pumps wherever water or another fluid is to be pumped against a reasonably constant head. They are sometimes used for controlling boiler-feed pumps, but constant-differential or excess-pressure governors are preferred for this purpose.

Differential-pressure governors control the steam operating the pump, so that the discharge pressure will always have a predetermined differential over the boiler pressure, or the head against which the pumping is to be done, no matter how variable that head may be. Used on boiler-feed pumps, this type of governor keeps the discharge pressure about 25 or 30 lb. above the boiler pressure, thus insuring a satisfactory flow of feed water, no matter how much the boiler pressure may vary.

PUMP GOVERNORS may be used for a number of other services, such as starting or stopping the pump when the liquid is at a certain height in a tank. They can also be designed to slow down the operation of the pump when maximum liquid level is approached. Governors are available for controlling vacuums, as well as pressures, and they should generally be installed on vacuum pumps when a constant vacuum is to be maintained.

Governors of a similar type are sometimes installed for controlling the engines operating forced-draft fans for steam boilers, the fan being automatically speeded up when the boiler pressure tends to drop.

In general, the size of pump governors, and other steam regulators, should be determined by the amount of steam to be handled, rather than by the size of the piping. The valve should be of such a size that it will operate, as nearly as possible, in the full open position most of the time. This prevents wire drawing, damage to the valve seats, and greatly improves the regulation. Operating characteristics and capacities of pump governors differ widely. Whenever possible the manufacturer should be consulted as to best size and type.

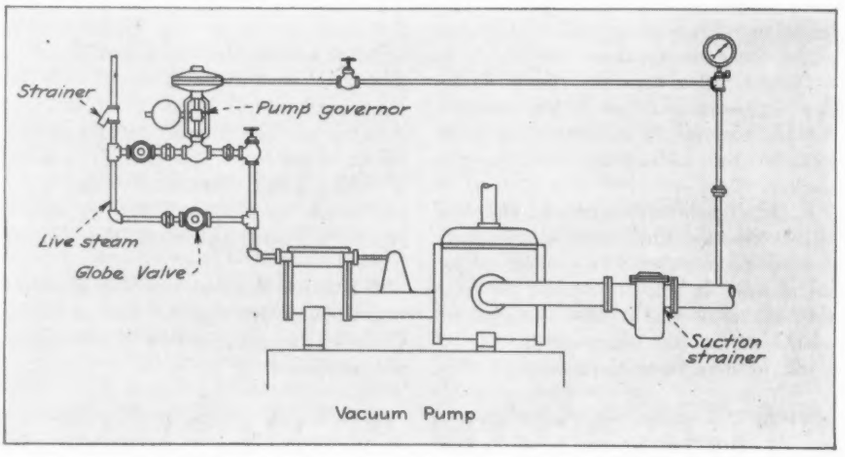


Fig. 2. Hook-up of governor and vacuum pump

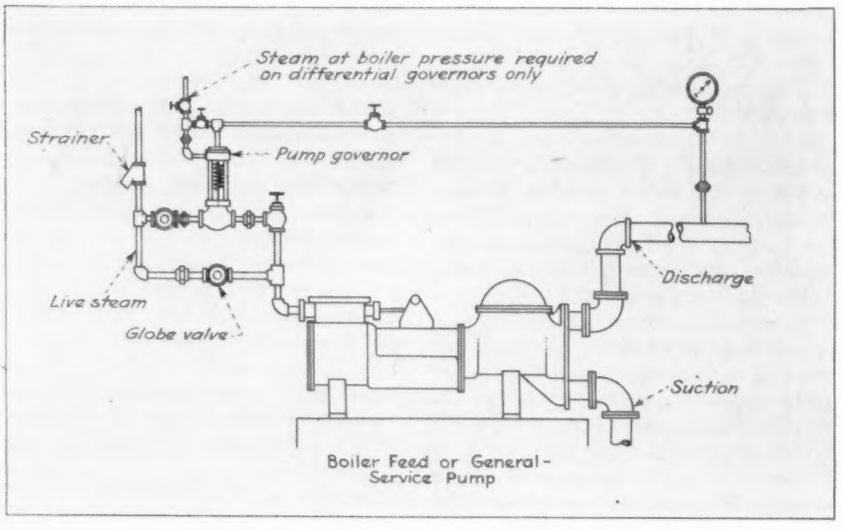


Fig. 1. Application of governor to boiler-feed and general purpose pump

As in the case of reducing valves, pump governors and other automatic regulating valves should be provided with bypasses, having a hand-operated regulating valve. Also, they should be installed with unions and shut-off valves so that they can be removed for repairs, without putting the pump out of service.

The accompanying illustrations show typical hookups of governors for general-purpose or boiler-feed pumps, and for vacuum pumps. Strainers are shown in the steam lines. These are often omitted, but they are comparatively inexpensive, and add greatly to the dependability of the governor.

QUESTIONS & ANSWERS

Wadding Made from Waste

Technical Editor:

Inclosed is a sample of wadding. This looks like one or more sheets of card sliver put together and then glazed with something to give it a smooth surface and hold it together. We would like to have any information you can give us as to how this is manufactured. (8702)

Wadding or batting of this type is made from waste stock, such as garnetting thread or knit goods which have been gathered from cutting rooms. If the stock comprises threads, it will have only to be garnetted; if it is composed of clippings from woven or knitted fabric, it will have to be run through a shoddy picker and then garnetted.

After the stock has been prepared, it is carded and formed into laps. The card delivers the web to an endless lattice conveyor apron, on which it is built up to the thickness desired. The length of the forming table, as well as the width of the card, is controlled by the class of trade to which the wadding is to be sold.

After the lap has been built up to the desired weight and thickness it is removed from the forming table in the form of a roll and run through a size machine that gives the top and bottom a coating of starch. This coating is then dried and pressed to form the material as in the sample submitted.

Wadding or batting of this type can be of a number of types, such as for shot-gun; candy-boxes; and, if bleached absorbent stock is available, sanitary products.

Streaks in Worsted

Technical Editor:

We inclose a cutting of cloth which is made with a 2/36s worsted in the warp and a spiral in the filling. After this cloth is dyed, it comes out with the defects shown. Can you offer us an explanation of this defect? We are of the opinion that the fault is caused in the dyeing, as these pieces were not fulled, and we were wondering if cloths of this nature should be, or can be, dyed at full width. (8656)

The wrinkles, breaks, or cracks which are apparent in the sample submitted will always occur in fabrics made from a combination of such stocks and yarns as you are using.

If the pieces had been examined after scouring, in the white, the breaks would have shown as strongly as they do now. Therefore, dyeing at full width, which is not feasible, would be of no help.

If a spiral yarn of higher quality could be used, the effect would be altogether different. Of course the luster would be much less, and we assume the luster is being striven for. However, the handle would be more desirable.

If these goods were crabbed, in the grease before scouring, in a two-bowl Yorkshire crabbing machine, it might set the weave so the after-treatments would not raise the coarse fibers. Without crabbing, the warp yarn being so much softer and smaller than the filling, shrinks to a certain degree, while the coarse spiral yarn refuses to shrink and is forced to bob-up in streaks.

Crabbing would flatten the two-way twill effect, not enough to change it very much, but enough to enhance the luster and give a better hand. We suggest that you weave a few yards on the end of a piece with a finer quality filling yarn, and subject the whole piece to a given treatment. The result would show positively whether the wrinkles are caused by use of improper yarns.

Tie Goods Defective

Technical Editor:

Enclosed find sample of tie goods of 150-den. warp and filling, 56 picks, 80 ends in ground, 160 ends in satin.

We are trying to discover the cause of the streaks which run the entire width of the cloth. We also have seen cloth wherein the damage occurs very unevenly warpwise. The dye used was commercial dye and therefore not fast color. Is the streakiness caused in sizing or due to streaky filling. Your help will be appreciated. (8661)

Examination indicates the trouble is not due to streaky filling. The color in the filling appears to be satisfactory from the standpoint of evenness and it does not seem to have run or spread. Apparently the damage was caused during sizing. There are a number of possible causes, and examination of the sample is not sufficient to disclose the particular cause in the specific case. We believe, however, that a careful check-up of the sizing operation will reveal the source of the defect.

Trouble in Shearing

Technical Editor:

We have some 12 oz. flannel that we are shearing on both sides, and we are having a great deal of trouble because the shear cuts holes in the cloth wherever there are heavy places or knots in the yarn. Our weave room claim that if they go over these pieces carefully and remove all such places, it will take many hours. Furthermore, there is some question as to the best thing to do with knots; whether to split them, pull them out, or what.

This cloth is rather heavily fulled, and, although it is not a high-priced fabric, it is of course not wanted when it is full of holes. We will appreciate any suggestion that might help overcome this condition. (8705)

The cloth should be looked over from the loom, before fulling, and knots pulled up and clipped off—not broken off. Rough and heavy yarns should be smoothed out and cleaned up before fulling.

This defect is usually due to improper setting of the carriage which carries the revolver and ledger blade. The rest and the point or cutting edge of the blade must be in perfect juxtaposition if harmless and, at the same time, perfect shearing is to be obtained. When small slubs or knots are being snipped into holes, a trouble usually blamed on poor or careless burling, resetting the carriage to correct position will usually overcome the difficulty.

Cotton-Warp Melton

It has been brought to our attention that Question & Answer No. 8542 in our April issue (page 97) gives an erroneous impression as to the capabilities of tape condensers and ring spinning frames for making low-quality woolen yarns. Actually, tape condensers are running satisfactorily in many mills spinning yarn as coarse as ½ run. In reference to spinning, there probably is no low-grade coarse yarn that is not being spun satisfactorily on woolen ring frames.

It is apparent, therefore, that the ⅞ run, low-quality woolen yarn employed as filling in the cotton-warp melton referred to in the original inquiry can be produced successfully with tape condensers and ring frames.

Streaky Rayon Fabric

Technical Editor:

Inclosed are samples of acetate tie fabrics containing satin stripes of yarn-dyed rayon. The satin stripes have a streaky appearance. In the maroon sample you will note there is an end which is absolutely white for a short space and then resumes its dyed color. In the blue sample the silver-white stripe was originally dyed light blue. Also, all the other satin stripes in the samples have a heather or streaky effect which is not desired. Please advise what you believe to be the fault. (8674)

The only clues we have are those in the goods themselves, since we now have no opportunity of examining the yarns as they were delivered by the

dyer. The fabrics are composed of an aceate warp and filling, except in the satin stripes. These are clearly not acetate, since they are not soluble in acetone and do not burn like acetate. Frequently, in complaints concerning fabrics showing color changes, it is the acetate color that is at fault; but here the acetate colors are perfect, even the royal blue, which is particularly susceptible to changes. This fact, and the fact that the color changes in the satin stripes are in individual strands of yarn, shows that whatever influence acted on the goods, did so before and not after weaving. The spots on the yarns are not intermittent, but seem so because an occasional light colored end runs on the face for a few picks and then inside for a few picks; when ravelled out, it is found to be uniformly light.

All this evidence points to uneven dyeing, in the general sense of the word, although the dyeing may have been quite even when taken from the dyebath and then became faded or discolored during drying or later. Unless the skeins can be inspected, it will be almost impossible to prove this positively, because a beamed warp may not show the imperfections as clearly as the woven goods. We suggest that the dyed yarns be inspected more carefully before making up warp beams.

Filling Bars in Serge Fabric

Technical Editor:

We are sending you herewith a sample of cloth and a copy of a report concerning causes of filling bars in this cloth. You will note the report indicates a slight variation in twist. We should like you to give us your opinion as to the causes of these bars, and your answers to the following questions: (1) Is the variation in twist the same as indicated in the report? (2) Is this a permissible variation and within tolerances specified by the A.S.T.M.? (3) Can spinners completely avoid such twist variation? (4) Is there a noticeable count variation, and would this cause the defect? (5) How many shuttles were used in the production of this cloth, and does this have any bearing on the filling bars? If so, what is the customary practice as regards the number of shuttles on cloth of this type? (8563)

We believe the hard-twisted effects in some of the bars in this fabric may have been caused by an uneven drag on the twisting frame. Elimination of such unevenness should remove the defects caused by it. There is one very distinct bar which shows two quite definite shades, and we do not believe this is caused by variation in yarn twist. Also, the line is too straight to be an air bar, such as might be caused by a drying out of the exposed folds of fabric after extracting and while waiting its turn at the dryer. The bar in question looks more like a sun-bleached bobbin. Bleached picks on the outside of a bobbin will never dye as dark as a normal bobbin. A bobbin lying around on a window sill might cause such a defect, since such yarn, even if not exposed to direct sunlight, will gradually change its tone. The oil dries out and daylight will change it enough to cause exactly the difference in shade which appears.

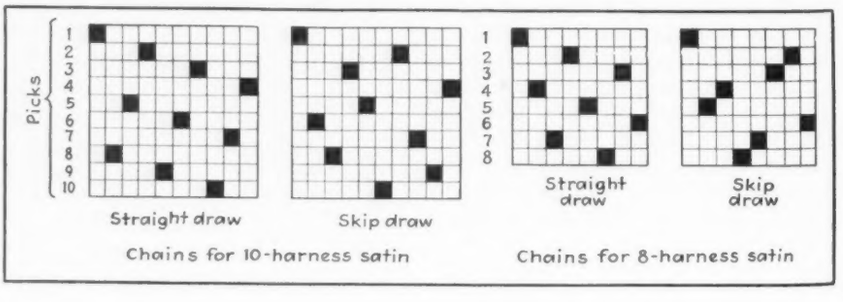
As regards the various questions included in your letter, we would reply as follows: (1) We do not have facilities for making routine tests of the type indicated in this question, and therefore cannot give you an opinion. (2) Based on the data in the test report included with your question, it would appear that the variation in twist between the lowest turn per inch in the light section of the cloth and the highest turn per inch in the dark section of the cloth was somewhat more than permitted by standard tolerances. However, the variation between averages of the turns per inch in the light section and the dark section is well within these limits. (3) It is undoubtedly impossible to exclude *all* variations in twist; but it should be possible to keep them within the standard tolerances. (4) See the answer to question No. 1. Generally speaking, count variations as between individual picks, if sufficiently large, would cause noticeable defects in the fabric. (5) See answer to question No. 1. Doubtless, number of shuttles used does have a bearing on production on defects of this kind. In many mills it is the practice to mix the filling up as much as possible, running pick-and-pick from three or five shuttles, so that any variation in an individual bobbin would be spread over the cloth as much as possible and not localized in any one spot.

Chains for Satin Weave

Technical Editor:

Please send me a drawing of the chain for a 10-harness satin weave, both straight and skip draw; also for an 8-harness satin. (8676)

Chains for 8- and 10-harness satins, in both straight and skip draws, are shown in the accompanying diagram. In each case the smallest counter—3—has been used. This will produce a fine face. If a different face is desired, a counter of 7 can be used for the 10-harness weaves, or 5 for the 8-harness weaves. Should this be done, the 10-harness straight draw, would lift: 1, 8, 5, 2, 9, 6, 3, 10, 7, 4. A 10-harness skip draw would lift: 1, 6, 9, 3, 8, 2, 5, 10, 4, 7. An 8-harness straight draw would lift: 1, 6, 3, 8, 5, 2, 7, 4. An 8-harness skip draw would lift: 1, 4, 5, 8, 2, 3, 6, 7.



Sizing Worsted Warps

Technical Editor:

We are running with more or less success single worsted warps, using 58s quality, 1/20s, warp-twist yarns. We use a potato-starch-base size, with warp conditioner and gelatin added, in varying proportions depending upon the particular yarn used. The formulas we have built up are our own, and we would appreciate your supplying us with some typical formulas used for sizing yarn of this type, so we can check our own against them. (8710)

The sizing of singles worsted warp yarns so they will weave with a minimum of dusting and chafing depends on the construction of the cloth and the number of harnesses used. Increased picks per in. and a greater number of harnesses will require heavier sizing than where there are few picks and a plain weave of only 2 or 4 harnesses.

Mills which use less than 2,000 lb. of size per month will find it to their advantage to purchase a complete size. There are several of these on the market. They contain a thin-boiling starch gum, gelatine, and softener in a balanced proportion. In the mill, they are diluted with water, and cooked just under the boil for a few minutes. They are then ready to use in a size box the temperature of which is held at 170° F. Concentration is increased or decreased, depending on the amount necessary for a given warp. This will run from about 8 to 12 oz. per gal.

Mills which use more than 2,000 lb. per month will do well to purchase a thin-boiling starch gum made from dextrinized starch, or an oxidized starch and a soluble softening fat. The gum will be used in about the same proportions as in the above case, while the softener will be used about 5 to 8% on the weight of the gum used.

We believe you will find use of a warp size such as outlined above superior to your present practice. Also it will enable you to use rayon blends.

COTTON SECTION—CHAPTER X (Continued)

By IVAR MOBERG

Automatic Filling Motions

AFTER CHECKING with proper gages all distances having a bearing on the proper operation of the automatic filling motion, one can proceed with the resetting and readjusting.

Insert an empty bobbin in the battery and so adjust the lateral position of the small-end disk that the bobbin will be held firmly in place between it and the bobbin disk. However, guard against excessive pressure against the bobbin. Bobbin tips are easily injured, and broken or rough tips cause excessive filling breakage. So turn the small-end disk on the bobbin-disk stud that the bobbins will be in perfect alignment with the battery. Tighten the setscrews in this position.

With an empty bobbin against the bobbin guide in transferring position, make sure there is a very little play between the bobbin-disk ratchet and the hold-back pawl. If the teeth of the ratchet are not in good condition, replace it. On some later-model looms, the hold-back pawl is pivoted on an eccentric stud, which can be turned to take up excessive play. Examine the feed pawl for excessive wear, and replace it if necessary. Apply just enough tension on the feed-pawl spring, by turning the spring case, so that the pawl will be held in contact with the ratchet. Bring the transferrer down on the bobbin and ascertain whether the hollow in the transferrer fork centers over the bobbin tip. If necessary, bend or slightly twist the fork to make it center. The fork should be about ¼ in. above the bobbin tip when the transferrer is down on the bobbin rings. The object of this is to transfer the bobbin with the tip pointing slightly upward, to prevent filling break on the transfer.

So adjust the top holder that there will be a barely perceptible clearance between it and the bobbin tip. The top holder should not be permitted to touch the filling on the bobbin.

Apply tension of the transferrer spring by turning the transferrer-spring collar on the transferrer stud. The tension should be just enough to prevent overaction of the transferrer when the transfer motion is idling.

Now comes the positioning of shuttles for correct transfer. Place an empty bobbin in transfer position in the battery, and move the transferrer lightly down on the bobbin rings. With a pencil, mark the transferrer directly above the center of the middle ring. Remove the bobbin from the battery and, with the lay at front center, bring the transferrer down on an empty bobbin in the shuttle. Position the shuttle by adding or removing packing in the lay end until the mark on the transferrer centers between the middle and outside bobbin rings, when the shuttle is tightly against the picker. The experience of the writer is that the shuttle could be a trifle farther into the box, or so that the pencil mark on the transferrer lines up with the inside of the outside bobbin ring. With a slight shuttle rebound this would allow perfect transfer, and it would do no harm in the absence of any rebound. However, if the shuttle goes too far into the box a bad transfer smash might result.

Bring the latch finger into transfer position, and with an empty bobbin in the shuttle, move the lay slowly to extreme front center. Adjust the length of the latch finger, by loosening the bolt which holds it to the latch stand and turning the adjusting screw in the end of the latch stand, until the transferrer is ⅛ in. off the bobbin rings. On high-speed looms, a clearance of ⅛ in. between the transferrer and the rings of a fully transferred bobbin is preferable. The full motion of the transferrer will be taken care of by its momentum at full loom speed.

Check the bobbin support to make sure it just clears the rings of the bobbin in the battery. If necessary, pack the bobbin-support stop on the inside of the hopper stand by slipping leather washers on the bobbin-support bolt until the proper position is obtained. Do not tighten the bobbin-support spring more than is necessary to support the bobbin in transfer position, and prevent it from dropping out of the battery. The bobbin must move quite freely when depressed by hand.

On later types of batteries, the butterfly bobbin-support has been replaced by a swinging-type support. This does not enter the shuttle at transfer, but swings out and away from the bobbin. Therefore, it cannot be trapped in the

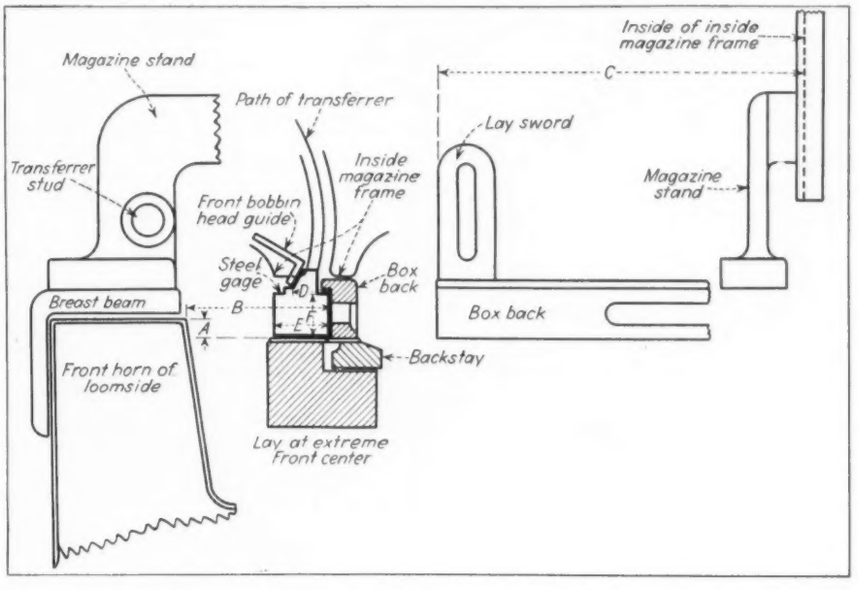


Fig. C73. Distances which should be checked before making adjustment of stationary bobbin-changing mechanisms

shuttle and cause a smash. This bobbin support cannot be applied on old batteries, since it requires a different hopper stand.

STATIONARY FILLING MAGAZINES are used in conjunction with box looms and contain four or six cells, for as many kinds of filling. The 4-cell stationary magazine is most used, and will be dealt with here.

Before re-setting and re-adjusting already installed stationary filling magazines there are certain measurements which should be checked, in order to make sure the magazines are placed in correct position. These measurements are indicated by letters in Fig. C73. *A* is the distance of the raceplate below the breast beam, with the lay at front center. *B* is the distance from the inside of the front horn on the loomside to the reed line, with the lay at front center. This distance should be equal at both sides of the loom. *C* is the distance from the inside of the lay sword to the inside of the inside magazine frame. *D* is the distance from the lower tip of the front bobbin-head guide to the box back, with the lay at front center. *E* is the width of the shuttle. *F* is the height of the shuttle. The magazine must also be lined up so that it is parallel with the lay.

These distances vary with different types of looms and different sizes of shuttles. Information as to correct measurements, as well as steel gages for checking certain of the distances, can be obtained from the loom builders, if not already at hand.

Fig. C74 shows a late model Crompton & Knowles 4-cell stationary magazine. Adjust the distance between the two magazine frames until new bobbins can be moved freely up and down, even at an angle, in each cell. Guard against having the frames so close that they will cramp the cradles; these must turn freely at all times.

Next, correctly position a shuttle laterally in relation to the magazine. This may be done by dropping a bobbin into transfer position on the giveways, bringing the transferrer lightly down on the bobbin, and making a scratch on the transferrer directly above the center of the middle bobbin ring. At the same time, make sure the concave tip of the transferrer is concentric with the rings of the bobbin. If necessary, the transferrer may be bent slightly to make it concentric with the bobbin rings.

Remove the bobbin from the giveways and insert an empty bobbin in a shuttle. Push the shuttle into the shuttle box as far as it will go, and bring the transferrer down upon the bobbin in the shuttle. The scratch on the transferrer should now line up midway between the first and second bobbin rings, or perhaps a little nearer the first. Add to or reduce the amount of packing behind the picker until this position is obtained.

Engage the transferrer dog with the bunter on the lay and move the lay to extreme front center. Adjust the length of the transferrer dog in the transferrer-dog stand by turning the setscrew until the transferrer is within 1/32 in. of touching the rings of a fully transferred bobbin in a shuttle. This clearance may have to be increased, depending upon the speed of the loom. High speeds necessitate more clearance; low speeds, less. Without moving the lay, adjust the transferrer stop, by turning the adjusting screw, until there is approximately 1/32 in. clearance between the adjusting screw and the stop, with the transferrer down on the bobbin rings. On some models this screw is in the top extension of the transferrer; on others it is in an extension of the magazine stand. This adjustment will prevent the transferrer from going too far down into the shuttle and causing a smash, should a transfer motion take place without a bobbin on the giveways.

ADJUST THE GIVEWAYS by so turning the three adjusting screws indicated at the lower left in Fig. C74 that an empty bobbin on the giveways will lie parallel with the lay and central with the slot for the transferrer in the inside magazine frame. On some magazines, the outside giveways must be brought into correct position by careful filing of the stops on the giveways themselves. However, do not file the corresponding stops on the magazine frames.

Bring the transferrer lightly down upon a bobbin on the giveways and ascertain whether it centers over the rings of a bobbin being transferred. If it does not, bend the transferrer slightly until it centers over the bobbin being transferred when this bobbin comes in contact with the one in the shuttle. The giveways on the inside magazine frame should be so set that they will be spread 1/8 in. by the bobbin in transfer. Those on the outside frame should spread 3/16 in. when the bobbin is transferred.

Make sure the vertical slides move freely up and down in their guides. If any bind, remove them and carefully draw-file the places which show pressure. Depress the slides until the spring plungers snap into the upper V-shaped recesses in the slides. The slides should now all rest with their latch heads at the bottom of the slot in the magazine frame. The latches

Courtesy Crompton & Knowles Loom Works

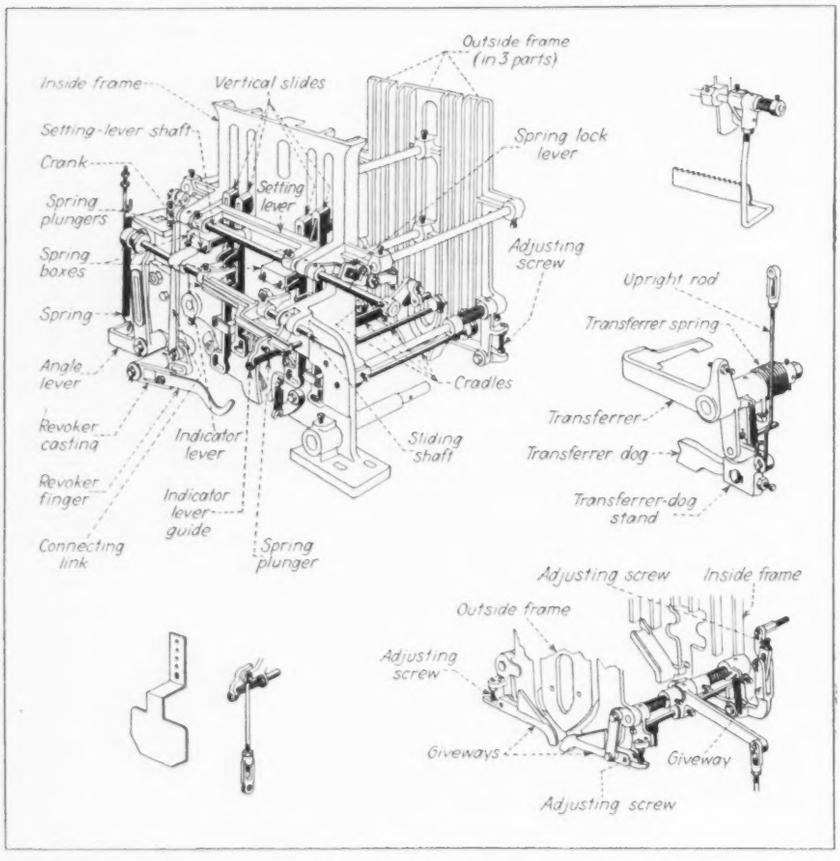


Fig. C74. Crompton & Knowles 4-cell stationary bobbin magazine

should be flush with the face of the slides.

The tops of the lower projecting fingers of the slides must also all be at the same height. Remove any slide that is not in alignment and, by careful filing, so adjust the position of the V-shaped recess in the slide that the spring plunger will snap the slide into correct position. Now, raise all the vertical slides until the spring plungers snap into the lower V-shaped recesses of the slides. The under sides of the upper projecting fingers of the slides should now all be at the same height. Remove any slide that is out of alignment and file the V-shaped recess, as described above, until the proper height is obtained.

With the upper adjusting screw in the spring-lock lever against the magazine rod, and the vertical slides raised, so adjust the position of the setting lever that its upper surface will be 1/8 in. below the latches in the slides. Tighten the setscrews in this position.

Depress all vertical slides, bringing the setting lever to its lowest position. Then, so turn the lower adjusting screw in the spring-lock lever that it will confine the action of the spring lock and keep the setting lever from resting on the upper side of the spring boxes.

RAYON AND SILK SECTION—CHAPTER IV (Continued)

By H. E. WENRICH

Driving and Shipping

WHEN REPLACING BRAKE LINING, be be very careful to follow the curvature of the brake drum. Otherwise, after the band has been applied, bulges may appear between the rivet points, causing the drum to heat and resulting in failure to stop the loom properly. If there are only three or four rivet holes around the band, place in enough additional holes to make a total of five to seven. This will assure the lining being held securely and will also help to keep out bulges. Countersink the rivet heads in the lining before attaching permanently. In applying lining, start one end at the first rivet hole and rivet it in place. Continue, in sequence, until the last rivet is in the opposite end of the band. Trim both ends of the lining to a bevel edge. [Additional data on applying brake lining appeared in the Cotton Section of the Manual, June 1938 issue, page 103—Editor.]

When the lay turns over on the pick due to oily brake drums, the oil can be removed by dropping Fullers Earth onto the drum as the loom is running. This cleans off the excess oil, avoiding the necessity of removing the brake band for cleaning. Of course, this is worth while only if the brake lining is in good condition. Avoid soft and soggy leather or other lining material, as the quick action required on high-speed looms may be lost if there is a cushioning effect when the brake is applied.

The brake- and shipper-handle grips shown in Fig. RS16 (February issue, page 146) are interchangeable. When a grip splits, it is an easy matter to apply a new one. On some other types of handles, however, the grip is an integral part of the handle. Fig. RS19 shows a method of repairing broken grips on shipper handles of this type. Cut off the broken grip, then weld into place a length of 3/4 in. cold rolled steel or pipe. This prolongs the life of shipper handles and eliminates the work which would be required, if applying a replacement part necessitated friction adjustments. Usually, on shipper motions of this type, certain parts are worn into each other. Hence, replacement of one part often requires replacement of several others.

This type also has a locking device to hold the handle in "on" position. A short stud, bolted to the shipper lever, locks into the end of the slot at the bottom of the shipper handle, as shown. When the hump in the end is worn, the handle slides off, slowing the loom, and increasing the likelihood of the shuttle being caught inside the closing shed. To prevent such slippage, increase the depth of the hump. The same rule applies to other types of shipper lock-levers.

The shipper-locking stud in the shipper lever can be moved when adjusting the handle for increased or decreased friction, and when positioning the handle near the tip of the knock-off bumper. If either the hump or the stud is worn too much, the handle will ease off gradually. To remedy this trouble, file down through the end of the slot to create the necessary hump, and/or renew the worn stud.

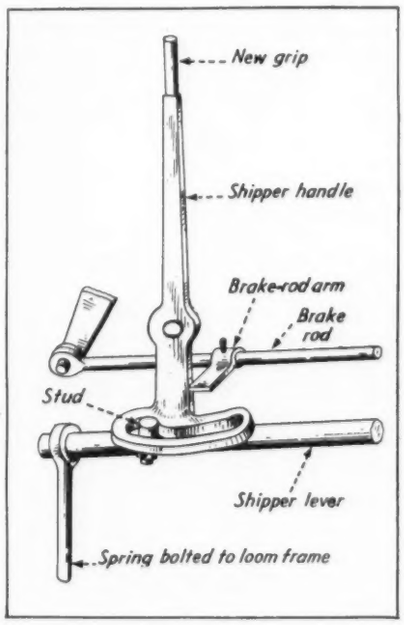


Fig. RS19. Schematic diagram showing method of repairing shipper handles and shipper-locking studs

One important thing to remember when increasing the locking ability of both brake and shipper humps is to test frequently while making the necessary repairs. Do not file out too much metal at one time; rather, file slightly, then test. Repeat until satisfactory; do not go to extremes.

Looms are generally equipped with a device of some kind to knock off the shipper handle when the brake is applied. One such device (other types are similar in action) is the brake-rod arm. This arm should be set close to the shipper handle, so that when the brake handle starts to fly off, the arm shoves the shipper handle off. If the arm presses too tightly, the shipper will ease off gradually, making a false loom stop. If the arm has too much clearance, it may fail to shove the handle off, allowing power to be applied while the loom is stopped, and thereby causing blown fuses or burnt-out motors.

The best time to ascertain whether repairs to brake, shipper, and knock-off assemblies are necessary is when the loom is empty, just prior to mounting a new warp. With power off at the motor switch, pull the handle into running position, take out the shuttles, and stop the loom by turning the lay toward front center until the bang-off takes place. Make any adjustments required, so that when the warp is in place, the loom will be in as nearly perfect running order as is possible.

Publication of Chapter V of the Rayon and Silk Section of the Loom-fixers' Manual will be begun in an early issue of TEXTILE WORLD.—Editor.

STAPLE COTTON FABRICS

By JOHN HOYE
Fabric Technician with W. Harris Thurston
New York

This fifty-third installment of Mr. Hoye's series of articles on staple cotton fabrics—which began in the January, 1936, issue—continues the discussion of bedspread fabrics.

Bedspread Fabrics

DIMITY STRIPE SPREAD FABRICS. These are made in two styles—all-bleached white, and white or unbleached with colored stripes. The stripes are woven seersucker crinkle stripes (alternating with plain woven stripes) or regular twill-woven stripes.

Three varieties are: (1) TWILL STRIPED DIMITY with bleached warp and dyed ply filling; (2) PLAIN AND SEERSUCKER STRIPED BORDERS, DOBBY DESIGN GROUND with unbleached dyed warp and unbleached filling; and (3) CRINKLE DIMITY stripes in all white or white with colored stripes.

The seersucker crinkle stripes are formed by weaving alternate sections of slack-tension warp ends alongside regular-tension warp ends. Yarns used are generally carded, singles unbleached; and singles or ply colored.

Examples of dimity stripe spread fabrics:

Unbleached and colored crinkle stripes; 72 in., 56x44, 1.74 yd.; dyed and unbleached singles warp yarns; unbleached singles filling.

Unbleached and colored plain and crinkle stripes; borders with dobby woven ground 72 in., 64x50, 2.00 yd.; dyed and unbleached singles warp yarns; unbleached singles filling.

Bleached white dimity stripes on colored ground; 72 in., 68x38, 1.07 yd.; singles warp yarn; colored ply filling.

CANDLEWICK AND CHENILLE BEDSPREADS—Candlewick spreads were the original hand-embroidered or tufted spreads made in the homes of mountaineers of Georgia. Those used today are generally machine embroidered or loom woven. They have been displaced to a great extent by the chenille type of spread, which is also machine tufted. The candlewick type is distinguished by its series of individually spaced tufts or dots. In machine embroidered candlewick spreads, the base fabric is machine tufted in all-over elaborate designs similar to the original hand-made type. In the loom-woven candlewick spreads, the floats of the tufting yarn are woven into the sheeting fabric at the same time.

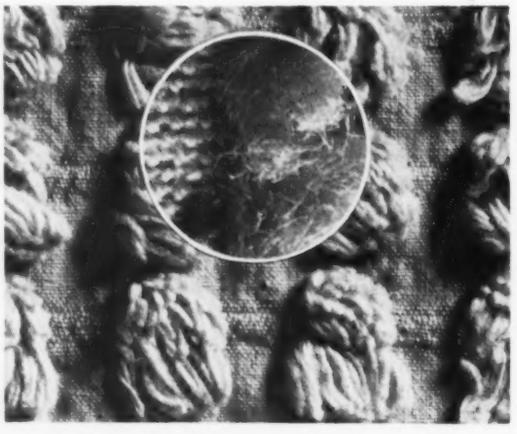
The sheetings employed as base fabrics are generally made with all single yarns, but also with ply warp and singles filling. Most of these sheetings are plain weave, with about eight picks twill woven at places where the tufting yarn is interlaced.

The chenille type spread has very closely stitched floats, which, when cut, form a continuous line of cut-yarn tufts without a break, giving more cover. The base cloth used for embroidery is a wide bed sheeting, generally unbleached. Piece-dyed sheetings or colored warp yarn and unbleached filling (chambray type) sheetings are also used. Unbleached tufted spreads are also dip dyed in solid colors; i.e., the unbleached tufted spreads are dyed with direct colors. The term "chenille" is a misnomer, no chenille yarn being used. A soft-twisted, heavy, bulky multiple yarn is used for tufting (ten to twelve ends of 8s are generally used). The ends run parallel or may have one to two turns per inch to keep the yarns together. After the closely stitched loops or floats on the faces are cut, the tufts have the appearance of cut chenille yarn. For the base, 81 and 99 in. width sheeting is used; after embroidering, cutting, and washing, this generally shrinks to 72 and 90 in., respectively. Chenille tufted spreads are also made into matching drapes, beach capes, bathrobes, etc.

Constructions of sheetings used for base fabrics include the following:

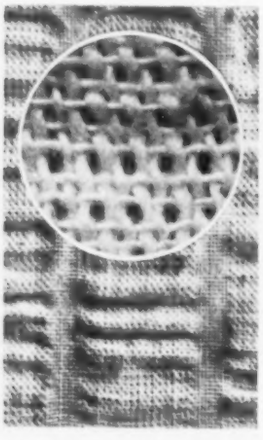
81 in.	64 x 64	1.51
81 in.	56 x 60	1.88
81 in.	60 x 60	2.00
99 in.	64 x 64	1.25
99 in.	56 x 60	1.45
97 in.	60 x 60	1.75

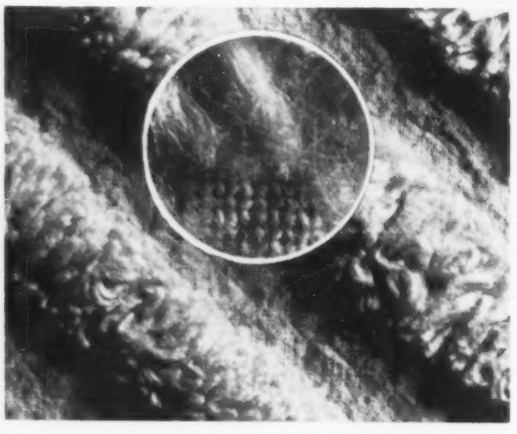
Dimity crinkle-stripe bedspread fabric; 72 in., 56x44, 1.14 yd.—unbleached and dyed singles warp; unbleached singles filling (below at left)



Loom-woven candlewick bedspread fabric (dip-dyed); base fabric 68x56 finished; 2-ply warp; singles filling; 8s 12- or 16-ply tufting yarn (at right)

Chenille bedspread fabric (dip dyed); base fabric 68x72 sheeting; 10s 10-ply tufting yarn (below)





More expensive chenille embroidered spreads are also made, which are called "Punchwork Spreads." These are made with finer yarns, and have finer embroidered effects. In this type of embroidery, the operator, guiding by hand a pencil-like mechanical needle, can produce individual, elaborate designs.

Example of loom-woven candlewick bedspread fabric with hobnail pattern (dip dyed):

68x56 finished; 2-ply warp; singles filling.

FREE FOR THE ASKING

Readers interested in literature reviewed on this page may secure copies by writing to Textile World, 330 West 42nd St., New York, giving their company connection, title of item desired, and date of issue in which it was reviewed.

Pick Counters. Waltham Watch Co. Illustrated booklet describes new shutter-type pick counters, said to prevent tampering; interesting movable tab shows how shutter operates.

Immersion Heaters. General Electric Co. Bulletin GEA-214D describes, pictures, and gives technical data on company's immersion-type electric heating units for a variety of services.

Valves and Fittings. Crane Co., Catalog No. 40-S contains 306 pages describing and illustrating complete line of steel valves and fittings; includes data on kindred steel specialties and accessories; contains engineering information.

Chemicals. Naptohle, Inc. Leaflet describes company's detergents, dye assistants, penetrants, water-soluble oils, and other finishing compounds.

Shears. Hermas Machine Co. May issue of *Clothroom Spotlight* contains article describing high production, low cost per yard of operating Hermas shears, and other data of interest to clothroom operators.

Temperature Gages. Weston Electrical Instrument Corp. Catalog T-11-B describes temperature gages in laboratory, general-purpose, and heavy-duty types; included are data on range covered, prices, dial size, etc.

Loom Parts. Draper Corp. May issue of *Cotton Chats* describes company's facilities for manufacture of repair and replacement parts, and points out importance of purchasing these from loom manufacturers.

Switches. Micro Switch Corp. Data Sheets Nos. 8 and 20 describe application of a number of different types of electrical switches.

Boilers. Babcock & Wilcox Co. Bulletin G-28 describes straight-tube, sectional-header, cross-drum boiler for pressures up to 250 lb., and with heating surface from 1,000 to 6,000 sq.ft.

Washing Equipment. Rodney Hunt Machine Co. Catalog No. 340 describes complete line of washers, including wood and stainless-steel models, as well as a new model with laminated plastic top.

Solvent Recovery. Carbide and Carbon Chemicals Corp. 32-page illustrated booklet discusses solvent recovery by activated carbon system; explains importance of solvent recovery, solvents which can be profitably recovered, equipment necessary, and operating technique.

Bearing Bronze. Johnson Bronze Co. Catalog 400 contains 56 pages describing company's stock of bearings, bushings, bars, and allied materials.

Rayon Sizing. Milligan & Higgins Corp. Leaflet describes company's technical gelatine products for use in slashing, and contains a page of "Suggestions for the Slashing Room."

Dyestuffs. National Aniline & Chemical Co., Inc. March issue of *Dyestuffs* contains 16 page reprint from TEXTILE WORLD on the subject of new synthetic fibers, and articles on finishing uniform cloth and automobile upholstery, and dyeing pile fabrics.

Fluorescent Fixtures. Westinghouse Electric & Mfg. Co. Booklet F-8500 describes twin-lamp fluorescent units designed for low-bay industrial areas; leaflet 61-152 gives data of a similar nature.

Water Treatment. Cochrane Corp. Publication 2860 describes company's zeolite water softeners for textile and other industries; included are installation photographs, data on construction and operation of systems, prices, etc.

Belting. L. H. Gilmer Co. 96-page book titled "Guide to Efficient V-Belt Practice" contains data on multiple and fractional horsepower V-belts; information on sheaves, flat pulleys, and adjustable-diameter and companion sheaves; engineering section which discusses the designing of special drives; formulas, tables, and other useful information.

Plant Sites. Contra Costa County Development Assn. Bulletin points out trends in industrial development in Far West, contains interesting map of Contra Costa County, Cal., indicating the products of various sections.

Paints. Skybryte Co. Catalog No. 8 gives price, use, and other data on company's paints in a wide variety of types for various services.

Corrosion-Resistant Metals. International Nickel Co. 16-page, pocket-size booklet contains data on characteristics of company's seven rust-proof metals; included are charts giving engineering data on each.

Cleaning Compounds. Oakite Products, Inc. March-April issue of *Oakite News Service* contains article on "Precision Cleaning of Loom Harness," and short item describing cleaning of warp spinning rings.

Lighting Equipment. Wiremold Co. 4-page leaflet illustrates company's surface wiring system for overhead and floor use; as well as fluorescent lighting equipment of several types.

Bearings. Fafnir Bearing Co. Catalog No. 35X is pocket-size edition giving data on dimensions, load ratings, types, and sizes of complete line of radial, thrust, precision, self-aligning, and sealed bearings and housed transmission units.

Knitting Machine Parts. Thomas & Skinner Steel Products Co. Pocket ruler gives measurements in inches and metric system; contains conversion tables from millimeters to inches, and vice versa.

Fluorescent Lighting. Benjamin Electric Mfg. Co. Bulletins describe company's fluorescent lighting equipment, and solutions to thirty lighting problems.

Color Card. Calco Chemical Division, American Cyanamid Co. Handy file-folder contains description of Calcomine Brilliant Rubine B, and swatches showing shades produced by various concentrations.

Motion Pictures. Berndt-Maurer Corp. Illustrated bulletins describe 16-millimeter sound recording system and motion picture camera; a third booklet contains article "Some Industrial Applications of Current 16-Mm. Sound Motion Picture Equipment."

Voltage Regulator. General Electric Co. Bulletin GES-2285 describes causes of loss of electric power, and tells how voltage regulators eliminate them.

Anti-Friction Bearings. New Departure Division, General Motors Sales Corp. 112-page book gives data on applications, advantages, designing, etc., of various types of anti-friction bearings.

Textile Rollers. International Nickel Co. Vol. 5, No. 1 of *Process Industries Quarterly* contains, in addition to other information, article on corrosion - resistant - metal - covered rolls for various textile processing uses.

Tanks. Hauser-Stander Tank Co. Catalog No. 40 contains 100 pages of data on design, construction, and use of wooden tanks in a wide variety of types.

Humidification. Parks-Cramer Co. April, 1940, issue of *Parks' Parables* contains article and photographs describing use of atomizers in cotton and woolen mills.

Latex. Revertex Corp. of America. Bulletin gives data on company's concentrated Latex, its treatment and use, and other general information concerning the product.

Electrical Equipment. Westinghouse Electric & Mfg. Co. 64-page new edition of "Quick Selector" catalog, designated No. 30-000, gives fingertip data on selection of correct apparatus for motors, lighting equipment, or feeder circuits.

Metal-Spray Gun. Master Metal Spray, Inc. Illustrated leaflet describes and pictures low-cost metal-spray gun for rebuilding shafts, cylinders, rods, etc.

Centrifugals. American Tool & Machine Co. Bulletin describes centrifugals for a variety of processing applications; includes numerous photographs of representative types.

Textile Leathers. Graton & Knight Co. 8-page catalog describes loom leathers, rub-roll aprons, condenser tapes, comber and gill-box aprons, and other leather products of this producer.

Motor Fires. Associated Factory Mutual Fire Insurance Co's. Leaflet for bulletin-board mounting stresses "Care Will Prevent Motor Fires."

Lubrication. Gulf Oil Corp. Illustrated booklet describes company's periodic consultation service on textile lubrication problems.

TEXTILE PERSONALITIES

J. E. MILLIS is still a young man despite his gray hair, his years of experience, and his recently added dignity as chairman of the National Association of Hosiery Manufacturers. When he left the University of North Carolina, he first turned his attention to banking. Later he joined the High Point Hosiery Mills established by his father, J. H. Millis, and J. H. Adams. This mill became a unit of the present Adams-Millis Corp., of which Ed Millis is now president.

Ed's friends wonder how he finds time for his many business connections —director of High Point, Thomasville & Denton R.R., director of Wachovia Bank & Trust Co., director of Chamber of Commerce, president of Highland Cotton Mills,—as well as taking an active part in civic affairs. His ability to drive unerringly and constantly at the essential things, to make every move and every minute count, is the secret of his diversified business life. He even has time to gratify his taste for golf and hunting. His favorite hunting ground is the former George Gould estate several miles from High Point, which he purchased some time ago and uses to entertain his friends.

Ed Millis is a busy and a happy man. Not too busy, however, to render unselfish service to the Wesley Memorial Church of which he is a valuable member of the board of stewards; nor to give counsel and advice to his two children: Helen, a senior this year at Mt. Vernon Academy, Washington, D. C., and Jim, Son and Heir, a member of the junior class at McCallie's School, Chattanooga, Tenn.

Auguste Richard, fisherman

J. E. Millis at his desk

A SPECIALIST in merchandising is the new vice-president of Pacific Mills—Auguste Richard. He was with the commission firm of Lawrence & Co. from 1920 to 1926 when Pacific Mills was under that roof, at first a department head and later a partner. In 1927-1928 he was treasurer and general manager of Ipswich (Mass.) Mills, also a Lawrence & Co. account. The next year, 1929, began a ten-year connection with Spool Cotton Co. From 1930 to 1939 he was president of that company, from which office he was called late last year to manage the sales end of Pacific Mills.

Mr. Richard is a merchant born of a drygoods merchant, since his father was a partner in the firm of H. A. Caesar & Co. His paternal grandfather came from Montaigny, Switzerland, in 1857 and settled in New York. His maternal grandfather was president of the National Park Bank of New York. His college is Harvard, and his first job was with R. L. Day & Co., New York investment bankers. He served in France in 1918 as first lieutenant of field artillery with the 77th Division.

Golf, shooting and fishing are Mr. Richard's relaxation. He is a member of the Blooming Grove Club of Pike County, Pa., where rough grouse, woodcock and pheasant as well as brook trout, are his game. He has done tarpon fishing in the Gulf of Mexico.

Such spare time as Mr. Richard has is not all spent in sport, however. He has taken a full share in various forms of welfare work, being active for many years in the Five-Towns Community Chest of Cedarhurst, L. I., in which neighborhood he has a summer home, and being a director of the Manhattan Eye, Ear & Throat Hospital.

TO MEET W. R. BELDON, manager of Clark Thread Co. of Georgia, Austell, on the golf course or bridle path, you would never guess that this genial perpetually-sunburned sportsman went to work in a cotton mill at the age of 17; and secured most of his higher education from correspondence courses. His real textile training, Mr. Beldon likes to think, came from long association with tough, honest Bill Loftus, for many years superintendent of Clark Thread Co., Newark, N. J. He learned from Superintendent Loftus that honesty and openness in management are essential, even if you have to get a little hard-boiled occasionally to enforce them.

Starting off during summer vacations in the testing department at Newark, Mr. Beldon soon began erecting machinery. Before he was 21, he became assistant superintendent of Clark's huge plant at Newark, a man-sized job for anyone. Progressing steadily with the company he was sent to Austell, in 1932 as plant manager of the new mill just completed, which position he still holds. Mr. Beldon believes in all kinds of outdoor sports, and is proficient in golf, swimming, riding, hunting, and nearly anything else you might name.

W. R. Beldon in Austell

NEWS OF THE MONTH

War and Textiles

Infinitely varied were the reactions on the textile industry and other industries of the new and critical phase of the war in Europe. Washington reactions are noted on pages 50 and 51. Editorial comment appears on page 47. The following developments and opinions are a few samples of the effects:

Raw cotton broke in sympathy with the decline in other commodities and in stocks, and reached a low of 9.46¢ for the month on May 18, compared with a high of 10.96¢ on May 1; it closed at 10.21¢ on the last day of the month.

There was no startling effect on demand in the textile markets, such as there was last fall. On the contrary, the main tendency was toward paralysis. Outlook was extremely uncertain.

Southern cotton mills look for important help in their prospects during the summer, as a result of the defense program.

Raw wool values escaped any serious effect from the intensification of the war. Boston observers felt the market was in a good position to go ahead when mill buyers re-entered it. The wool top exchange, however, recorded declines in tune with security markets.

"War is not bullish, and this type of war particularly is not so," states Scheuer & Co., New York. "We cannot see that our domestic textile markets have been fundamentally impaired by the course which the war has taken. They will be exposed to further shock if and as the German success continues, and by the same token they will steady if the news is more encouraging. But this is largely an emotional consideration. However, from this point on, developments must come fast; the near future will tell us much as to ultimate probabilities. Inasmuch as shock is likely to continue as a market consideration, gray (goods) operations for the time being might best be conducted along conservative lines. If both sellers and buyers adopt this attitude, the effects of shock will be minimized and correction is likely to ensue more rapidly."

Greatest Cotton Week

Support of National Cotton Week this year, on the part of retail stores, was more extensive than ever before, according to reports reaching the Cotton-Textile Institute, sponsor of the event. In an increasing number of cities, the local observance of the week took on the aspect of a community-wide activity, with Chambers of Commerce and other groups directing and coordinating the activities of merchants, theaters, and even in some instances public schools.

From the President down, officials throughout the country endorsed the event. Mr. Roosevelt commended the cotton industry's enterprise in the projection of this year's observance. There were proclamations of recognition from the Governors of Alabama, Arkansas, Georgia, New Mexico, South Carolina, Tennessee and Texas. In addition, the Governors of other States publicly expressed their interest in the success of the event, as did scores of other public officials.

"Salutes" to National Cotton Week were broadcast on a number of outstanding radio programs on coast-to-coast hook-ups, and in addition there were literally hundreds of spot announcements on radio stations throughout the country.

Incidental to the week was the initial New York showing of the cotton industry film "The Threads of the Nation." It was shown also in cities and towns throughout the country.

Lily Pons Inspects New Hosiery—Famous operatic singer after an hours tour of the Pilot Full Fashion Mills, at Valdese, N. C. She was accompanied by group shown (left to right): Albert F. Garrou, treasurer of mills; Ben Pons, general manager; John Laird Jacob, a director; Miss Pons; John D. Guigou, manager of finishing; Frank LaForge. Miss Pons is from the same section of Europe which produced the founders of the Waldensian community in the hills of North Carolina around Valdese.

S. T. A. Meets

The annual convention of the Southern Textile Association was held at Blowing Rock, N. C., June 7 to 8. William G. Ashmore, southern editor of TEXTILE WORLD, told about his trip to South America last summer. Other speakers were R. J. Cheatham, head of the cotton processing division of the Southern Regional Research Laboratory, New Orleans; H. E. Spence, of Duke University, and S. F. Kimball, of Liberty Mutual Insurance Co. Details of the convention will be given in these columns next month.

Blue Ridge Conference July 18 to 20

The Southern Conference on Human Relations in Industry will be held this year at Blue Ridge, N. C., July 18 to 20. Speakers scheduled for the two-day session are: Douglas Freeman, editor of the *News-Leader*, Richmond, La.; Erwin H. Schell, Massachusetts Institute of Technology, Cambridge, Mass.; Glenn Gardiner, Forstmann Woolen Mills, Passaic, N. J.; W. E. Clark, director employment relations, Tire Cord Mills, U. S. Rubber Co., Hogansville, Ga.; George Hodge, industrial relations, International Harvester Co., Chicago; A. L. Kress, National Metal Trades Association, Chicago; George

D. Heaton, minister, First Baptist Church, Lynchburg, Va.

Hectic Launching for Nylon Hosiery

May 15 has come and gone, and the retailing of Nylon hosiery in metropolitan centers has settled down at prices which approximate the anticipated levels of $1.15, $1.25 and $1.35. Reports indicate that these prices have been universally held on mill brands, but in a number of instances store brands have been cut to a basis of $1.08 to $1.26. Competition and rumors brought price cuts on that first day to as low as 97c. for the 45-gage and $1.16 for the 51-gage. These bottom figures lasted for only a few hours and appeared in only a few stores.

After less than a week from the start, it was reported that consumer returns of Nylon hosiery had amounted to only about two pairs for every 1,000 pairs sold, of which returns about half were for alleged manufacturing defects and about half for snags. Considerable size variation was reported.

In many of the smaller cities Nylon sales moved sluggishly. There was less evidence of consumer interest and no evidence of price cutting. Many New York stores limited purchases to two pairs to the customer. A number of New York stores were soon sold out.

Any impression that the DuPont company was exercising control over prices of Nylon hosiery was dispelled by the announcement on May 14 that that company had waived and cancelled several conditions contained in its Nylon hosiery license, including those which referred to specific types of hosiery, minimum machine gages, hosiery manufacturers' prices, and labeling requirements. All licenses will terminate in their entirety on Jan. 31, 1941. "During the interim," said DuPont, "unlicensed hosiery manufacturers, and after Jan. 31, 1941, all hosiery manufacturers buying Nylon yarn, will be permitted to use such yarn without a formal license under DuPont's Nylon hosiery patent."

Now come rumors that Nylon may soon go largely into military parachutes.

Two Good Parties

Memphis, Tenn., dressed up in its best bib and tucker and gave the South's biggest party. . . . its annual Cotton Carnival, May 11 through 16.

King Claude Crawford and Queen Lida Picton Willey arrived in festive splendor — and a downpour of rain which did not daunt them — on the magnificent river barge which brought the royal party up the Mississippi formally to open the Carnival.

Parades, secret societies, and their gay parties, and many other social and athletic events made up the week's program. Winding up the affair after midnight Saturday was a new stunt, a ReCoup party, which was well attended by the royalty and court but was unreported except in simple descriptive words—"Grand" . . . "Elegant" . . . "Better'n'at."

Gastonia, N. C., chose "Deep South" for the theme of its third annual Cotton Festival, June 10-15. The Queen, Miss Freida Myers, represents a family long associated prominently with the cotton textile industry, and the King, Harold Mercer, is manager of the largest mill in Gaston County—Firestone Cotton Mills.

A Fashion Show was presented by the Cotton-Textile Institute, Inc. under the direction of Miss Catherine Cleveland. A street parade, the coronation ceremonies, the reception at the Gaston Country Club, and the Grand Cotton Ball, were the other highlights of the Festival. George Jenkins, president of the local chapter of the Junior Chamber of Commerce, was also chairman of the Cotton Festival Committee.

Blister-Stitch, a success in three-quarter length hosiery for the younger girl. The "bare-knee" fad has received considerable publicity in magazines and dailies. The stocking shown is from Penn Hosiery Mills, Reading, Pa.

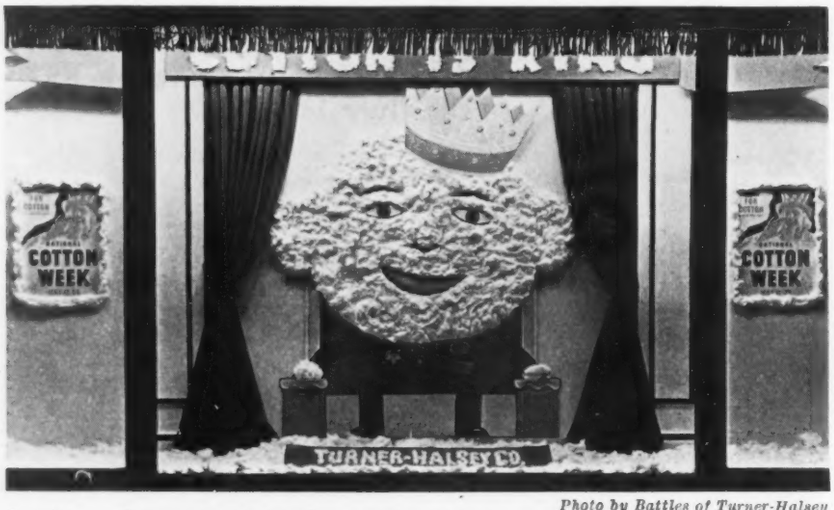


Photo by Battles of Turner-Halsey

A cotton-week tie-up is noted in Turner-Halsey Co's dramatic window display at 40 Worth St., New York, showing that "Cotton Is King".

Wool Mill Overseers meet

National Association of Woolen & Worsted Overseers met at North Scituate, R. I., May 18 for the annual outing. The event drew 475 persons, the largest crowd in years. The usual get-together meeting was held at Providence the night before. At the business meeting, nomination was made of Frederick H. Graichen, Plymouth, Mass. for president (to be voted on at the November meeting); for first vice-president, John J. Lyons, Providence, R. I.; for second vice-president, Edward J. Wolfendale, Lawrence, Mass.; for treasurer, Clarence L. Cutler, Stottville, N. Y.; for secretary, James J. Burns, Holyoke, Mass. There were six nominees for third vice-president as follows: Eugene Tatro, Harold J. Wilson, W. H. Mahan, Joseph B. Scanlan, Fred Leibold and Elwood Ward.

Carolina Golf Tournament

The annual golf tournament of Carolina Yarn Association will be held at the Carolina Inn, Pinehurst, N. C., Oct. 24 to 26. Officers and committeemen of the association follow: President, Ray Weaver; vice-president, John Sherrill;

secretary, Gordon Hope; treasurer, Joe Mason; prize committee, N. P. Murphy, chairman, Joe Foil, C. W. Causey; entertainment, Jim McDowell, chairman, Jack Holbrook, Fred Hallenbeck; golf, Fred Lemmond, chairman, S. L. Diggle, Pat Raiford; invitation, Walter Brown, chairman, H. B. Summerell, Everett Jordon; skeet, Joe Mason.

Apex Loses in Supreme Court Decision

Apex Hosiery Co., Philadelphia, is not entitled to damages under the Sherman act for damage done during the 1937 sit-down strike by the American Federation of Hosiery Workers, according to a six-to-three decision of the U. S. Supreme Court handed down on May 27. The opinion admitted that labor unions are subject to anti-trust prosecution but held that the acts complained of in this case were not intended to nor did they have any effect on prices of hosiery in the market. Apex received a favorable verdict of damages in the trial court, which was annulled by the U. S. Circuit Court of Appeals. It is understood that Apex will now proceed against the union in the State courts.

TEXTILE MILL SIDELIGHTS—No. 16

"She's our oldest employee and she's out of sympathy with our modernization program"

Full-Fashioned Machinery Trend

The statistical folder for 1940 recently issued by Textile Machine Works, Reading, Pa., summarizes the full-fashioned machinery trend of 1939 as follows:

1. Northern mills have resumed new machine purchases on a scale more nearly proportionate to their importance in the industry.

2. Shipment of 51-gage machines reached 30% of total shipments during 1939 as compared with 11% in 1938.

3. More than 800 old machines were sold in 1939 and have been transferred from established units of large size to new units operating on an average of less than ten machines each. There are now over 200 such mills operating a combined total of about 1,500 machines. During 1939 only 112 machines were scrapped.

TEXTILE CALENDAR

Fourteenth Annual Outing, Philadelphia Textile Manufacturers Association, Manufacturers Golf and Country Club, Oreland, Pa., June 19, 1940.

American Society for Testing Materials, annual meeting, Atlantic City, N. J., June 24 to 28, 1940.

National Safety Congress, Stevens Hotel, Chicago, Oct. 7 to 11, 1940.

American Association of Textile Chemists and Colorists, 20th annual meeting, Hotel Commodore, New York, Oct. 18 and 19, 1940.

Fourteenth National Exposition of Power and Mechanical Engineering, Grand Central Palace, New York, Dec. 2 to 7, 1940.

Southern Textile Exposition, Textile Hall Greenville, S. C., March 31-April 5, 1941.

Callaway Enters Towel Field

Callaway Mills have entered the towel manufacturing field with a complete line of terry towels. These complete the Callaway bathroom ensembles and the entire sets are to be merchandised nationally, according to R. D. Williams, Jr., vice-president in charge of sales. Samuel F. Parker, widely known in towel manufacturing, is supervising production of the new line and Arthur R. Neill has been engaged to direct merchandising.

Confer on Yarn Standards

A conference was held in New York on May 9 by committees representing the Southern Combed Yarn Spinners Association, the Mercerizers Association, and the National Association of Hosiery Manufacturers, at the office of the latter. The subject for discussion was standards for cotton yarn. The work done by E. M. Schenke, of the hosiery association, at the Bureau of Standards, in efforts to establish standards for hosiery yarns was outlined. Agreeing that perhaps standards were needed, but that the standards suggested were not practical for adoption by cotton manufacturers, the meeting adjourned until a later date when the matter will be re-opened.

Gas Fading of Acetates

The problem of atmospheric or gas feeding of colored acetate rayon was discussed by Charles A. Seibert, of E. I. duPont de Nemours & Co., at a meeting of the New York Section, A.A.T.C.C., held May 24 at Rochelle Park, N. J. Points brought out by Mr. Seibert included the difference in sensitivity of various dyes, the failure of certain non-sensitive dyes to meet light-fastness requirements, use of inhibitors and their influence on fastness properties and shades of dyes, tests for determining resistance of fabrics to atmospheric fading, and work of an A.A.T.C.C. research committee on the problem.

New officers of the section are: chairman, Dr. J. E. Meili, of Sandoz Chem-

ical Works; vice-chairman, Harry R. Tisdale, of American Dyewood Co.; treasurer, Edward Schmidt, of Borne Scrymser Co. Patrick J. Kennedy, of E. I. duPont de Nemours & Co., was re-elected secretary.

Public Relations Honor Roll

Arlington Mills has published a most interesting booklet commemorating their "75 Years of Progress" from 1865 to 1940. . . . TEXTILE WORLD'S story on this anniversary appeared on page 55 of our April 1940 issue.

Durene Association of America has sent to the trade facsimiles of the honorable mention awarded it by the American Trade Association Executives for "a skillfully planned market research and trade promotion program."

An eight-page supplement of the Webster (Mass.) *Times* was published in connection with a testimonial dinner given to H. W. Crawford, agent of the Stevens Linen Works. "For well over 70 years the names of Crawford and Stevens Linen have been synonymous," one of the articles declared, "two generations of the family having devoted their lives to the industry."

New Rayon Promotions

The Rayon Division of E. I. du Pont de Nemours & Co. has released a new educational motion picture with sound on the subject of rayon called "Fashion's Favorite."

A fashion show presenting "Sky Flight Prints" was held at the La-Guardia Airport, New York, early in May. The line of fabrics is from A. M. Pearlman, Inc. and is made of Crown-Tested rayon.

William Skinner & Sons, Holyoke, Mass., has developed a rayon satin for use by General Motors Corp. in the Pontiac automobile. The line comes in four colors with smooth finish and is rendered water-repellent.

American Bemberg Corp. reports that its technicolor sound-film "Aristocrats of Fashion" was booked for showing in 32 cities during May.

Industrial Rayon Corp. has prepared an instructive bulletin for distribution to retailers dramatizing the most effective methods of promoting Spun-Lo rayon undergarments.

Jersey-Like Woven Fabrics

A knitted jersey appearance has been achieved in a group of woven filament-rayon fabrics, in dress weights, which has recently made its appearance. The cloths are known variously as Jerzet, Jersette, LaJerse, and by other names. Several of them are illustrated in Fig. 1, including white, solid-color, and printed styles.

The first two in the group shown are composed of Crown Tested rayon; the last, which was produced in Canada, is made of Courtauld's "Quality-Control" rayon.

Basically, the fabrics illustrated are alike. All use the weave shown in Fig. 2, which repeats on 4 ends and

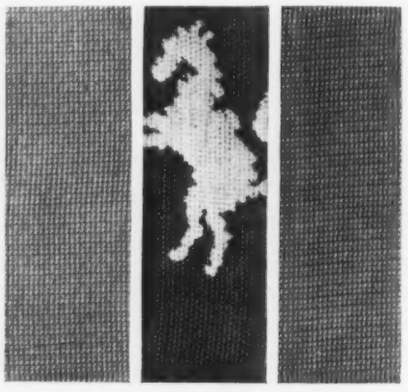


Fig. 1. Examples of jersey-like woven rayon fabrics. (Left to right) Jerzet, from Hego Fabrics, Inc., New York; Jersette, from Martin Weiner Co., New York; and fabric from M. E. Bins, Montreal, Canada

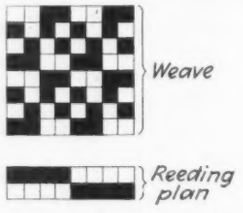


Fig. 2. Weave and reeding plan used in woven fabrics having knitted jersey appearance

4 picks. Warps in every case are reeded 4 ends per dent. Ends per inch in all but one of the cloths are 144; the exception has 152. Picks per inch range from 72 to 76.

With the Textile Schools

New Bedford Textile School announces that modernization of the technical and mechanical equipment is being speeded up.

Rhode Island School of Design, Providence, R. I., announces a new scholarship which will make possible the introduction of a new graduate course covering the rayon field. This will be known as the Atlantic Rayon Scholarship, of $1200, to be awarded yearly to a senior textile student who, in the opinion of the award committee, possesses those qualities which indicate future ability as a textile executive.

Massachusetts Institute of Technology, Cambridge, Mass., announces a summer program in Principles of Textile Analysis, from July 22 through Aug. 30. All work will be under the direction of Prof. Edward R. Schwarz.

Lowell Textile Institute Alumni Association held its 41st annual reunion on Saturday, June 8, at Lowell, Mass. At the luncheon President Charles H. Eames of the institute spoke, as did also Philip F. O'Brien, of the class of 1915, president of the association.

1939 Rayon Record

World production of rayon yarn in 1939 (yarn plus staple fiber) aggregated 2,230,960,000 lb., exceeding the previous record of 1,947,305,000 lb. in 1938 by 15%, according to Rayon Organon's annual figures. The 1939 world total was more than double the 1935 output and almost five times that of 1930. Germany has replaced Japan as biggest producer, with 27% of the total. Japan follows with 24% and United States is next with 17%. Details will be given in our next issue.

Army Seeks Wool Goods

U. S. Army Quartermaster in Philadelphia will open bids June 14 on large yardages of wool goods as follows: Olive drab, 32-oz. overcoating. 4,000,000 yds.; 18-oz. olive drab serge. 2,220,000 yds.; 18-oz. serge, light shade. 2,546,000 yds.; 10½-oz. worsted shirting, 1,475,000 yds.; Deliveries on each item are to be completed within 150 days of receipt of contract award. It is understood 500,000 blankets will soon be asked for.

Cotton Research Congress

National Cotton Research Congress, sponsored by the State-wide Cotton Committee of Texas, an organization including representatives of every phase of cotton and allied industries, will meet in Waco, Texas, for three days beginning June 27. At that time some of the world's outstanding cotton experts will pool their knowledge of cotton and discuss the future of the industry, according to Burris C. Jackson of Hillsboro, Texas, chairman.

Cotton Bale Covering

The Division of Marketing and Marketing Agreements of the U. S. Dep't of Agriculture has announced approval of allotments to the following cotton mills for the manufacture, sale, and delivery of 855,000 patterns for cotton bale covering: Lane Cotton Mills, New Orleans, La.; Cannon Mills Co., Kannapolis, N. C.; Fulton Bag & Cotton Mills, Atlanta, Ga.; and Callaway Mills, La Grange, Ga.

Wool Goods Market Waits

The spread of hostilities and the losses sustained by the Allies in May, had a paralyzing effect upon the wool and wool goods markets. In harmony with commodities and stocks, the Wool Top Futures Exchange declined sharply and in the fabric market there was an almost complete cessation of business. Allied successes or even stabilization of the war situation would doubtless produce rallies. As a matter of fact actual wool prices on the Boston market held fairly steady. After announcement of the Army's call for bids on 10,000,000 yds. of goods, wool strengthened and the clothing trade showed more interest in fabrics. After the over-running of Holland, Belgium and part of France, buyers had taken time out to appraise the possible effects of the situation. However, many mills are already well supplied with orders and production schedules are on a better footing than during the first quarter of the year. Sampling of women's wear lines for the fall has been fairly active, but actual business has been scant.

Cotton Goods Slack

Mixed conditions confronted the cotton goods market as result of Hitler's Blitzkrieg. At first paralysis, then only a spot business. Prices declined through May with 64 x 60s reaching 4½¢ and 68 x 72s 5¢. Several important mills are closing down. Actual cotton in the South remains high despite the slight sag in futures prices.

Rayon Producers Well Booked

Rayon yarn manufacturers were reported several weeks ago as booked through June, and to be allotting their output instead of expecting to cover customers' full requirements. Trading in the rayon fabric market has been restricted, but there is still a good backlog of orders and loom operations in mid-May were reported at 84% which compared favorably with any time in the recent past. Wood-pulp is advancing.

The German invasion of Holland and Belgium has taken out of the world market a number of important rayon sources, but it is expected that outside users of these yarns will now turn to Italian and Japanese producers.

In the domestic market, spun-rayon fabrics have lately been reported slow which is a change of front within the last few weeks.

Raw Silk Fluctuates

Raw silk prices have been moving a little more widely than in the earlier part of the year, but by early June there was no great change from the recent past and Double Extra Cracks 78% were quoted at $2.60. On May 20 in Japan, the Raw Silk Price Stabilization Committee set the price at which the Government would sell during the next silk year at 1700 yen, and the figure at which the Government would buy at 1350 yen. Present market levels are about 1405 yen. Fabric houses which supply the better end of the dress market are showing more interest in silk and an upturn in woven silk is looked for in the second half of the year. Silk takings by U. S. mills in May at 18,997 bales is lowest since 1921.

Fancy Stitches Prominent in Sweaters

Among the lines of men's and boys' sweaters recently opened for the fall, 1940 season, fancy stitches are playing a new and important part. Novelty effects gained by this means may give sales impetus to the market, which at the present time shares the general business stagnation.

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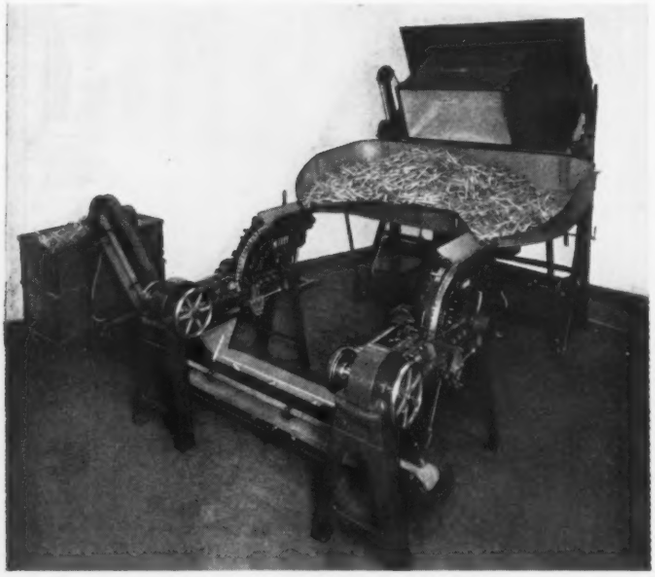

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NEWS OF THE MONTH

This and That

Chattanooga Yarn Association held its 15th annual spring golf tournament at Lookout Mountain, Tenn., May 23–24. Pictures and other details will appear in our next issue.

Miron-finish Controlastic was recently announced by Firestone Rubber & Latex Products Co., Fall River, Mass., for use in hosiery tops. A new method of covering the elastic core is said to result in elimination of yarn roughness. This, in turn, it is claimed, provides smooth, even flow from cones; prevents catching during knitting; and gives better appearance and longer life of the elastic tops.

Earl Constantine, president of National Association of Hosiery Manufacturers, has announced a meeting of Mid-West hosiery executives at Drake Hotel, Chicago, June 19. Next day the Chicago Yarn Men's Club will hold its 19th annual golf tournament at Barrington, Ill.

Ameripol, a new synthetic rubber produced from raw materials available in this country, was announced by John L. Collyer, president of B. F. Goodrich Co., June 5. Development of this new synthetic, which is derived from petroleum, and use of it in manufacture of tires are viewed as important steps in freeing this country from dependence on natural rubber (all of which is imported) and in upbuilding our national defense.

Cannon Mills is working on an order for 3,000,000 towels placed during April by the William B. Reilly Co. of New Orleans, coffee roasters. These towels are to be used as premiums in the sale of coffee.

National Federation of Textiles, Inc., has moved from its former location at 10 East 40th St. to new offices at 15 West 37th St. where the entire tenth floor is occupied.

Apparel wool stocks on March 30 in this country totalled 96,149,000 lb. compared with 94,506,000 lb. one year previous. Stocks of carpet wools on March 30, 1940, amounted to 46,289,000 lb. compared with 34,269,000 lb. one year previous.

National Knitted Outerwear Association, Western District, held its semi-annual meeting and golf tournament at the Woodmont Country Club, Milwaukee, Wis., on June 5.

Nylon manufacture in Great Britain will commence next fall in three plants, and it is said that the entire production will be placed at the disposal of the Royal Air Force for parachute fabrics, balloon cloths, and other aircraft items.

Operating executives from textile mills in New Hampshire joined in a meeting on June 8 at Hotel Carpenter, Manchester, N. H., for the purpose of forming a State textile group association. Eugene Tatro, Manchester, is secretary.

A new explanation of the phenomenal rise in raw silk last year—Germany was buying under cover in Japan for parachute cloth use to equip the "parachute troops."

Development of glass awnings, which are fireproof, rot-proof, and mildew-proof, was announced by Games Slayter, vice-president, Owens-Corning Fiberglas Corp.

Everlastic, Inc., Chelsea, Mass., has been granted a license by American Mills Co., New Haven, Conn., to manufacture Permoflex elastic webbing. Permoflex elastic, which was developed about two years ago is said to exhibit to a high degree the ability to withstand needle cutting and to resist repeated washings without breaking down.

Articles of incorporation for the Dyers & Finishers Institute of American were filed last month. It is expected that about 50 firms in the Paterson, N. J., area will become members of the Institute, which will have its principal office at 152 Market St., Paterson. Negotiations are expected to begin soon between the rayon and silk finishers and the Federation of Dyers, Printers, Finishers and Bleachers of America, regarding a new contract to replace the one which expires on Aug. 31.

Chapman Heads S. C. Assn.

Symposium on industrial relations held at annual meeting

THE ANNUAL GET-TOGETHER of the Cotton Manufacturers Association of South Carolina was held at its usual place—High Hampton Inn, Cashiers, N. C., May 24–25. Pinch-hitting for President M. P. Orr, who was unable to attend the convention because of illness. J. E. Sirrine presided at the first session at which a symposium on industrial relations by leading mill men was held. Employment from the standpoint of the employer was discussed by Walter S. Montgomery;

James A. Chapman new president of Cotton Mfrs. Assn. of South Carolina

William P. Jacobs reelected executive vice-president and treasurer

the health of mill employees by William A. Morehead; while collective bargaining was the subject of the paper given by R. H. Chapman. R. E. Henry delivered the report of the committee on public relations.

At the second session the principal speaker was Dr. Claudius T. Murchison, president of the Cotton-Textile Institute, who pointed out that consumers of cotton goods are receiving the benefit of attractive prices in view of today's cotton market, for contrary to the general impression that cotton prices are low, the actual price of raw cotton delivered to the mill today is about the same as at start of the year.

Other speakers were Fred W. Symmes, Greenville, S. C., recently elected president of the American Cotton Mfrs. Association, and W. M. McLaurine, Charlotte, N. C., secretary of that association.

James A. Chapman, president of the Riverdale Mills, Enoree, S. C., was elected president of the association succeeding M. P. Orr of Anderson, S. C., who has been president for the last two years and becomes a director.

S. H. Swint of Graniteville was elected vice-president. Dr. William P. Jacobs, of Clinton was re-elected executive vice-president and treasurer, and Sadler Love of Clinton was re-elected secretary.

New directors are B. F. Hagood of Easley, M. L. Cates of Spartanburg, and C. B. Nichols of Anderson. Hold-over directors are J. B. Harris of Greenwood, B. B. Gossett of Charlotte, N. C., George M. Wright of Great Falls, H. K. Hallett of Charlotte, N. C., C. E. Hatch of Greenville, and W. P. Hamrick of Columbia.

Captain Ellison A. Smyth of Balfour, N. C. and J. E. Sirrine of Greenville are life directors.

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Loom Supply Costs

Should be gaged in comparison to efficiency; methods for keeping them low

By LEWIS BURGESS
Crompton & Knowles Loom Works

THE COST of loom supply parts can be accurately appraised only when loom efficiency is considered. One way loom supply costs can be kept down is by means of loomfixers' classes. Loom stoppage, that arch-enemy of efficiency, is caused in the majority of cases by broken warp ends or filling. Misadjustment of the looms or worn parts may be responsible for this. Loom manufacturers hold a responsibility for correcting such situations as are found to be caused by parts failing—to that end, studies are continuously being made to ascertain what part or parts are the cause of most frequent stops. The success of this sort of work is dependent largely upon the cooperation of the mills, and the benefits of cooperation are realized by the mills not only in reduction of repair costs but in better production and less seconds.

Supply clerks can also help keep costs down. Their most important duty is keeping a well-arranged stock of supplies and an accurate record of the use of each item. The maintenance of a running inventory or visible control record is an essential phase of the proper keeping of records, and one which will prove its merit by regulating the supply with the demand.

Proper arrangement of stock is another step in the right direction. The common practice is to use racks and shelving arranged into suitable size bins. However, in some instances, particularly with smaller parts, rotary bins have been found to be more accessible and take up less wall and floor space. The matter of arranging parts in bins is one which often gets little consideration. In the case of loom parts, experience has shown that the most convenient, practical way to stock them is according to motions; i.e., have all warp stop-motion parts together. This not only facilitates prompt location of parts, but aids in taking inventory, and in some cases conserves floor space, since two small items can be stocked in the same bin, if they are companion parts on some motion.

Disbursement of supplies also should be given attention. Having the loomfixer get written orders from the second hand requires time and decreases production, since, in most cases, a loom is waiting while the fixer is looking for the second hand. This could be eliminated and yet an accurate record kept of each part used, by having the supply clerk maintain a system of recording his disbursements which would show at a glance just how many particular parts have been used by a certain fixer in a given period of time. Inspection of his records at regular intervals by the overseer and second hand would enable them to make a quick and accurate check on the use of supplies.

Identification of parts is likewise important. Each part has a number or symbol by which it can be identified. The similarity of many small items, such as studs, springs, screws, bolts, etc., is sometimes confusing, but it has been proved that no matter how easily a small part may be duplicated by some substitute, an adequate stock of each article of proper make aids uniformity, standardization, and—ultimately—high efficiency.

Abstract of a paper recently presented before the Weaver's Section, South Carolina Division, S. T. A., at Drayton, S. C.

Avondale Mills Inspection

After spring cleaning, company shows plant off

By J. C. NORMAN

DURING THE WEEK of May 6 to 11, the Avondale Mills, of Alabama, held Spring Inspection—an interesting custom that had its beginning when, in 1930, their operators, the Comer brothers, decided that if spring housecleaning benefitted the home why not the workshop?

Cleaning, repairing and brightening a chain of 278,752 spindles and 4,569 looms, just as a housewife does her home, is no small task—but systematic work and the full cooperation of everyone may accomplish wonders.

Expense must be considered and production maintained, but the odd moments of 5,000 pairs of hands, plus intelligent supervision, transform the appearance of things. Extra brooms, mops and pails are brought out, gallons of cleaning solvent appear and the decks are cleared for action.

The paint brush works magic, and glaziers, carpenters and plumbers go through the mills looking for jobs in their line. Fixers inspect machines, repair weak spots and ransack workbenches—discarding stuff that is only in the way.

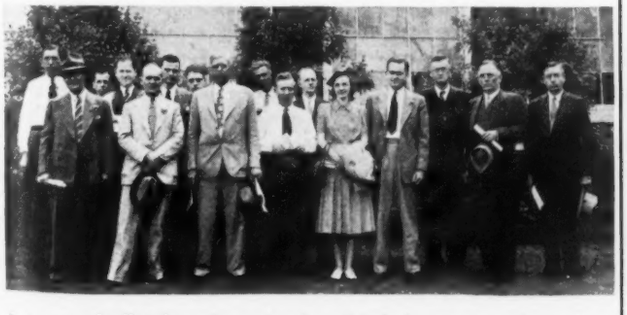
Other workers ransack cupboards, storerooms and basements—dragging out machine parts, broken gear, bits of worn-out belting, bottles and all the stuff that accumulates in such places. As things are brought to light, an experienced man shorts them. Everything usable goes to repair shop or supply room—the rest to the scrap heap.

There a junk dealer cleans up the mess and pays for the privilege of doing so. Meanwhile, outside hands trim the grass, shrubs and flowers that surround each plant.

Folks who take pride in the mill won't neglect their homes, so after work hours the operatives clean up about them. The village, like the mill, begins to sparkle.

When a chap has accomplished something he feels is worthy of recognition—a most natural impulse is to fly up on the fence and crow. So when it becomes certain that both mill and village will be spotless as a Dutch kitchen, invitations go out to friends and customers—"Why don't you come down and see us some time?"

Upon an appointed day, superintendents, managers and high officials meet with guests and stockholders and they spend a week inspecting the plants. No effort is spared to make the visitors enjoy the occasion. Should a mechanically



A group of officials and guests who attended a previous Inspection. Front row, third from left is E. S. Dunn, a vice-president and general superintendent of the entire chain. It is interesting to note that Mr. Dunn entered Central Mill as an eleven-year-old sweeper. Extreme right is W. M. Parks, who, as an industrious, thrifty young man, came to Avondale Mills as second hand in the spinning room. Today he is superintendent of the Eva Jane (their largest plant), and is a wealthy man.

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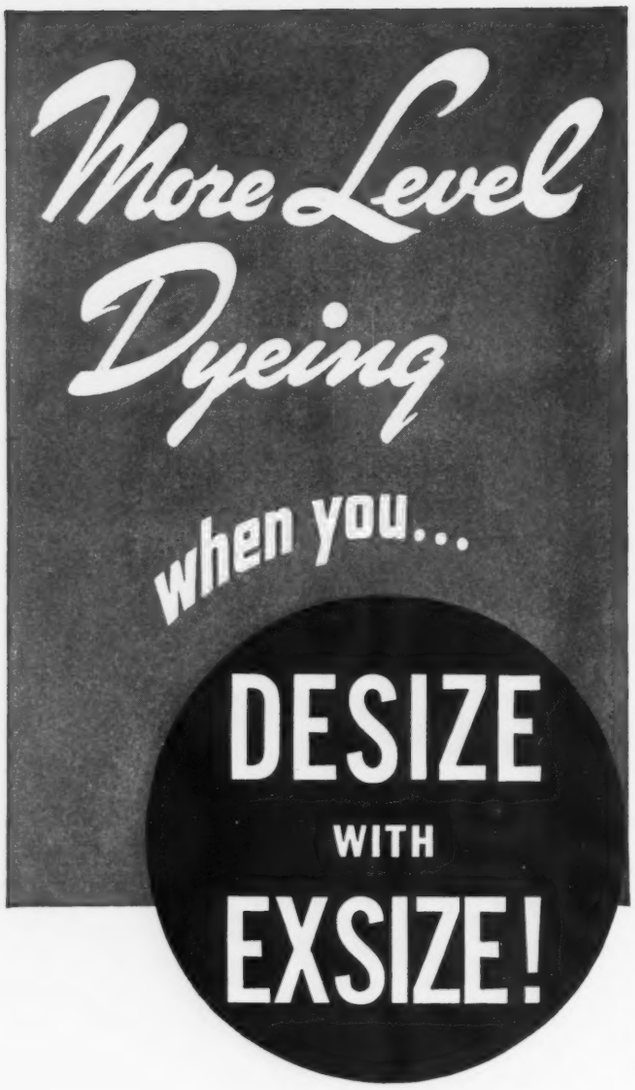

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inclined buyer become absorbed in a machine—someone gladly shows him how it works.

"Say, old man, while down in Alabama I saw just how they weave that raised design and once you get the hang of it. . . ."

Personal interest helps to sell goods.

If the ladies notice that the barrel of soap chips in the finishing department is the same brand that is widely advertised as best for baby's tender skin or for those dainty, silken underthings—they may come to realize the care that goes into the making of Avondale fabrics.

Rotary meetings, barbecues, band concerts or singing, dancing and entertainment feature afternoons and evenings.

Friendly rivalry is aroused between the various units, and group loyalty is kindled among the workers.

Executives meet, discuss their common problems, learn how the others manage and find kinks they may adapt to their own needs.

Stockholders are shown that their plants are well-managed and last, but by no means least, visitors are convinced that the whole organization, 5,000 strong, has a common objective—making the name "Avondale" upon cotton goods the same as "Sterling" upon silverware.

Selling Mill Homes to Employees

(Continued from page 55)

union, offered to sell its houses to its workers, but it had no takers. One labor leader has offered mills in his area which were planning to sell, a proposal by which the union would buy the houses and let the workers pay their weekly installments to the union. So far he has had no takers either.

Labor leaders believe that such home owning as the mill workers attempt should be worked out under Federal housing authorities. Then the relationship will be with public authorities instead of the employer; then the workers will get more desirable houses at probably not much greater cost, they claim. And if there has to be a Government subsidy to place such houses within their reach, the southern textile worker has as much right and need as any other low income group in the country, runs their argument.

There are other alternate plans beside those of the union. Many have been operating quietly for several years. Being less revolutionary and spectacular than the sale of the village itself, they have attracted less attention. For example, one mill has for some time been helping employees to buy farms within commuting distance. It has required that the land they buy shall be on a paved road, and a school bus route, and have an electric line close enough for connection. Some which had extra land have sold lots on which employees are building with the aid of the mill, through building and loan, or with savings.

Such plans are of somewhat modest proportions, involving from 20 to 50 purchasers. Under two more elaborate schemes involving up to 100 houses, mills are selling plots varying from a house-and-garden lot to 10 acres, building the houses according to the purchaser's plans, and letting him pay weekly installments to the mill or to a subsidiary corporation set up for the development. In still another case a mill manager has interested scattered local capital in building about 100 low-cost houses for sale on long terms.

There has been little village building and few additions to existing villages in the South for some 15 years. The moving of some workers to farms within commuting distance and the coming in of workers from farm families have been

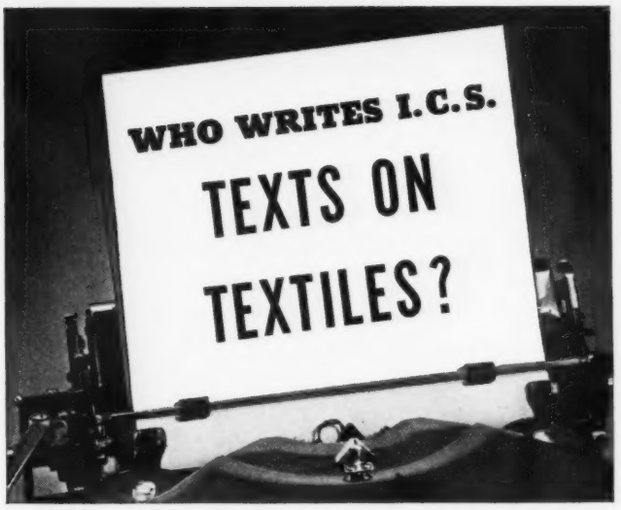
increasing since the beginning of the depression. Various aids to home-owning add up to a fair total. Now has come the beginning of sales with a widening interest that suggests their possible extension. Does all this mean that the mill village is on its way out? Probably.

IS IT A GOOD THING? That depends on policy and events. Yes . . . if it can go on slowly, with each mill considering its own situation and allowing the workers time to think and to sort themselves into potential and non-potential home-owners instead of blindly "signing up for a house." That will be difficult if the style catches on: witness the stampede to the "stretch-out" in the 1920's. Yes . . . if it does not run into too long a period of depression. That is an imponderable of the future.

Whether it is a good thing depends on your point of view. If you belong to an old school—if you are a superior person who believes instinctively in the inferiority, the helplessness and general cussedness of the cotton mill hand—you will have a nostalgic yearning for the days when an anti-social member could be ejected from the community by the simple process of firing him. There are such people—I talked to several among the citizenry while traveling for this survey. If you belong to a new school—if you are a labor organization enthusiast—you will fear all this movement as a device of the employer to circumvent a new freedom. If you belong to a middle group that is neither conservative nor crusader—you will want to see necessary and inevitable changes made with as little burden, pain and confusion as possible. That is the equivocal position of the middle-of-the-roader, the uncomfortable lot of one who sees some good and some bad.

Since the writer is of the last-named persuasion, I would like to end with a personal opinion. I have lived and worked in mill villages. I have studied them historically and as a current sociological phenomenon. I grant that they were an early necessity; that they undoubtedly raised the standard of housing of the families which the mills brought together; that they began the education of a rural people in community living. I believe their service is finished. The cotton mills did not, as many of their critics say, create a social class. But they have done much by their tight little communities, their isolation—by their controls, if you will—to perpetuate one. It is unhealthy for mill workers to say—as I have heard them say many times—of people in the adjoining community: "We are just as good as they are if we do live on a mill hill." It is equally unhealthy for the people in the adjoining community to refer in a socially distant tone—as I have also heard many times—to the mill villagers as "those people." It is a monotonous community when all personal and social contacts are limited to one narrow occupational group. It is high time that this sizeable block of southern society should be made an integral part and parcel of that society.

The sale of the houses by the mills may not be the best way to do this. But the divorcing of the house from the job is a first step that must take place in some fashion. And so I, for one, welcome a movement, so long as it is not too burdensome, too rapid or too ruthless, that will begin the break-up of the mill village. I have read and listened to thousands of pages of glowing description, defense, apology, criticism, vituperation of the mill village. Like many a mill man, I have tried to answer a thousand questions by southerners, northerners, foreigners, about it. It has become the New South's "peculiar institution." The South would well be rid of it.



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NEWS ABOUT MEN

Harry M. Leslie, head of the Leslie, Evans & Co., New York, has been elected president and director of the Hart Cotton Mills, Tarboro, N. C., succeeding the late John R. Rodgers.

J. P. Abney, Greenwood, has been elected president of Belton (S. C.) Cotton Mills; **Louis D. Blake,** for many years president of the mill, is chairman of the board of directors; **Vivien Vaughn** continues as secretary and assistant treasurer.

Wm. D. Anderson, president of Bibb Mfg. Co., Macon, Ga., and Mrs. Anderson, were so successful in raising funds to pay off a mortgage at Wesleyan College that they have had the dining room of the college named in their honor. It will be called the "William Dickson Anderson and Linda McKinney Anderson Dining Hall."

Frank J. Knell, now a member of the Board of Governors, was elected president of the New York Wool Top Exchange on June 3, succeeding **Robert J. Murray. Bernard J. Conlin,** also a member of the Board, is first vice-president, succeeding **Philip B. Weld. Kenneth W. Marriner** was reelected second vice-president. **William J. Jung** was chosen treasurer, succeeding **Clayton B. Jones.**

L. W. Caldwell, president of Caldwell Knitting Co., Calgary, Alta., was recently elected president of the Alberta Branch of the Canadian Manufacturers Association.

Walter Carpenter, Jr., lately a vice-president, has been elected president of E. I. du Pont de Nemours & Co., Wilmington, Del., succeeding **Lammot du Pont** who becomes chairman of the board, succeeding in turn **Pierre S. du Pont** who retires after almost 50 years service with the company. Mr. Carpenter is the second individual not a du Pont to head the company since it was founded in 1802.

C. C. Card was elected president of Cleveland (Tenn.) Hosiery Mills following reorganization. **B. C. Brown** was elected vice-president and **Pat Kirby,** secretary-treasurer and manager. C. H. Weiss, former manager, is retiring due to ill health.

John F. Tinsley, president Crompton & Knowles Loom Works, Worcester, and of the Associated Industries of Massachusetts, has been appointed a member of the Massachusetts Industrial Committee for Defense, which Gov. Saltonstall has named to investigate existing facilities and possible "bottlenecks" in production with particular reference to aircraft and related equipment. **P. M. Cabot** of Needham and **Crocker Snow,** Boston, are associated members.

GORDON B. M. WALKER, a member of the faculty of the Textile School of Clemson Agricultural College, Clemson College, S. C., will join the staff of TEXTILE WORLD July 1 as an assistant editor, located in the headquarter's office in New York. He succeeds Mark E. Wood, who resigned recently to accept a position with the Bureau of Home Economics of the Department of Agriculture, in connection with special work at Texas Technological College, Lubbock, Texas. Mr. Walker is a graduate of the textile engineering course at Clemson, and spent some time after graduation in the testing laboratory of Dunean Mills, Greenville, S. C. More recently he has been teaching weaving and designing at Clemson.

Matasitiro Kobayashi, managing director of the Yokohama Exchange on May 24 entertained members of the Silk Group of New York Commodity Exchange, and representatives of the silk industry in the United States, at a cocktail party in the Waldorf-Astoria, New York. A silk banner was presented to Commodity Exchange, on behalf of the Yokohama Exchange. **Charles Slaughter,** president, accepted the gift in the name of Commodity Exchange.

Henry Janssen, vice-president of Berkshire Knitting Mills and president of Textile Machine Works, Reading Pa., has donated $125,000 to the Reading Hospital for a two-story building to house maintenance units and thus provide

space in another building for 50 additional beds. Mr. Janssen donated the 25-acre park in which the hospital stands some 15 years ago when the institution was built.

Harold R. Lhowe, formerly executive director and general counsel of National Knitted Outerwear Association, New York, whose retirement as executive director was reported recently in these columns, has in fact withdrawn entirely and has no connection with the association. **Sidney S. Korzenik,** secretary of the association for many years, is now the chief executive officer.

Glenn Gardiner, assistant to the president, Forstmann Woolen Co., Passaic, N. J., presided at a session of the American Management Association at Hotel Pennsylvania, New York, May 22. The subject of the session was "Practical Ways to Make Your Foremen Cost Conscious."

William E. Remington, after almost continuous service for 41 years with American Woolen Co., New York, in the styling of woolen goods lines, has retired.

Ray Weaver, Greenboro, N. C., has succeeded **S. L. Diggle** as president of the Carolina Yarn Association, being elected at the annual meeting at Sedgefield, N. C., May 13. Other officers elected were **John Sherrill,** Greensboro, vice-president; **Joseph Mason,** Greensboro, treasurer; **Gordon Hope,** Greensboro, secretary.

E. L. Morrow has resigned as secretary-treasurer of the Grenada (Miss.) Industries, Inc. to enter the retail automobile business.

William C. Summersby has assumed his new duties as manager of the Springs Cotton Mills units at Chester, S. C. He was associated with the Indian Head Mills, Cordova, Ala., a unit of the Amory, Browne & Co., 25 years ago. This company later transferred him to Jackson Mills unit and then to Boston Mfg. Co. He later built and operated the Sand Springs Mills in Oklahoma for the Page Oil interests. He then went to Pacific Mills, and later to the Hill and Bates Mills, coming from that connection to the Springs group.

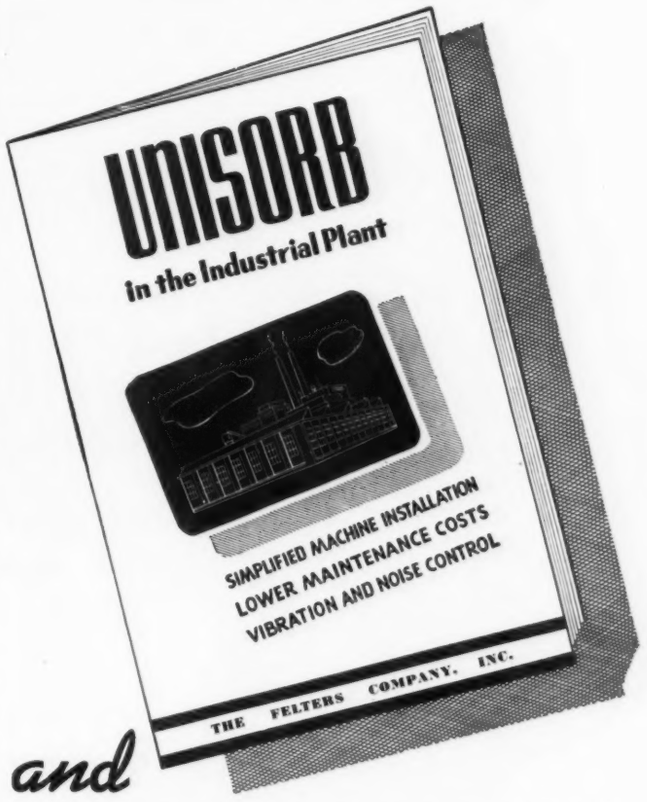
Peter Weston-Webb, in charge of the Montreal offices of Courtaulds (Canada) Ltd., until the recent removal of the head sales offices from Toronto to Montreal, has joined the Royal Canadian Air Force. Mr. Weston-Webb was also secretary-treasurer of the Textile Society of Canada and the newly formed Federation of Textile Technical Associations of Canada.

Harold E. Aken, vice-president of Cannon Mills, Inc., in charge of the Cotton Yarn Department is now located at the company's main offices in New York. The firm will retain its Philadelphia branch office in the Real Estate Trust Building, for the sale of

VETERAN RETIRES—Henry Peterson, dean of Collins & Aikman Corp. employes, is retiring after 62 consecutive years of service with that company. He is shown receiving the good wishes of Charles B. Rockwell, vice-president and treasurer, at the banquet tendered him by his employers and associates. Now 80 years of age, Mr. Peterson has for some years been mechanic at the Namquit Mill, Bristol, R. I., where he started work in 1877 as a learner in the carding room.

For . . .

EXECUTIVES, ENGINEERS



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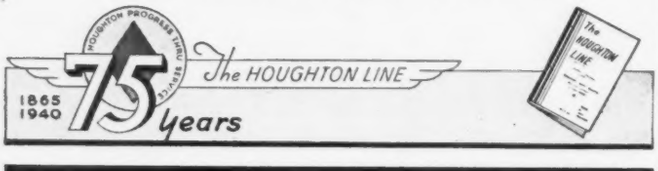

NEWS ABOUT MEN

yarn and other Cannon products.

Clarence L. Ederer, head of the firm of Ederer, Inc., Philadelphia, was unanimously elected president of the Alumni Association of the Philadelphia Textile School June 6 at the 39th annual meeting held at the school. He succeeds **Bradley C. Algeo,** acting director of the school, who has headed the Alumni Association ever since its inception.

Eugene Hults has been appointed industrial relations director of American Viscose Corp., Wilmington, Del. He was formerly vice-president in charge of operations at Mathieson Alkali Works.

James E. Shields has taken over the management of the rayon division of J. P. Stevens & Co., New York. With **W. Malcolm Brady,** resigned, he has been acting as co-manager of the division. He will be assisted by **J. H. Sutherland.**

William M. Penner has resigned as sales manager of Arnold Sales Corp., New York and has joined Roth Fabrics Corp. as vice-president and general manager.

H. Gordon Mullen, for many years an executive of Brown Durrell Co., New York, has joined Vanity Fair Silk Mills as hosiery merchandise manager.

E. E. Kimbrough, Jr., has been elected a director of Gainesville (Ga.) Cotton Mills.

Fred H. Drohan, St. Louis branch manager for Bigelow-Sanford Corpet Co. has resigned and **E. J. Moraghan** has succeeded him.

Albert E. Garratt has been named assistant treasurer of Arnold Print Works, North Adams, Mass., succeeding **W. Coggswell Chisholm.** Mr. Garratt, who has been chief accountant since 1933, will retain that position also.

E. C. Klindworth, for 12 years managing director of Jantzen Australia, Ltd., has returned to the home office at Portland, Ore. He is succeeded in Australia by **J. N. Walker.**

Samuel M. Kootz has become sales manager and stylist for the women's wear fabrics of Worcester Knitting Co., New York.

Thomas Stevenson, vice-president of Apponaug Co. and for many years in charge of the sales office in New York is retiring after 20 years service. He will be succeeded by **Thomas Hills** and **W. O. Carpenter.**

Karl T. Lundgren will handle rayon and cotton suitings for Eagle & Phenix Mills, New York. He was formerly with Clarence F. Meyers Co.

ROLAND LINWOOD LEE, JR., for the last four years associate cotton technologist, under U. S. Dept. of Agriculture, in charge of the research laboratory at Texas A. & M. College, College Station, Texas, who has been appointed to head the Textile Engineering Department of Texas Technological College, Lubbock, Texas, succeeding M. E. Heard who has resigned to become director of the Philadelphia Textile School. Mr. Lee received his B.S. from Clemson and his M.S. from N. C. State College. He has taken textile courses at Georgia Tech, Texas A. & M. College, Lowell Textile Institute and M. I. T. He taught at Clemson from 1926 to 1935 with two years out on a Textile Foundation Fellowship at Lowell Textile Institute. Mr. Lee is succeeded at the research laboratory at Texas A. & M. College by John T. Wigington, a graduate of Clemson, for 14 years in cotton research work under the Dept. of Agriculture.

Edward B. C. Frieze has joined Pacific Mills, New York, to have charge of the sale of rayon gray goods. He was lately with N. H. Aronsohn Co., and previously with Apponaug Co. and with United States Finishing Co.

Ed K. Willis, secretary, treasurer and buyer for Willis Hosiery Mills, Concord, N. C., has been elected district governor of Rotary for the coming year, and will assume his new duties July 1.

G. E. Stanley, former vice-president and manager of Avon Knit Ltd., Stratford, Ont., has been placed in charge of designing and selling departments of Knit-to-Fit Mfg. Co., Ltd., Montreal, Que.

D. F. Pollock, secretary of Belding-Corticelli Ltd., Montreal, Que., is the new president of the Canadian Credit Men's Trust Association (Quebec Division).

James C. Stubbs, who was associated with Pee Dee Mills, Rockingham, N. C., for 62 years has retired.

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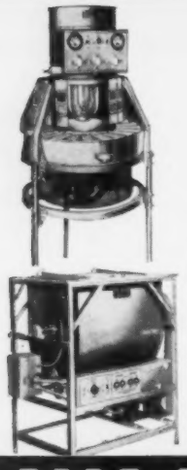

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NEWS ABOUT MEN

Photo by Battles

Officers of the New York Club of Philadelphia Textile School, photographed at Club's recent meeting. Left to right: treasurer, Benjamin M. Prager, of L. Bachmann Co.; vice-president Dr. George E. Linton, of Central Needle Trades High School; president, Milton Schmidt, of E. F. Timme & Son and secretary, Howard P. Galloway, assistant editor of TEXTILE WORLD. At the meeting a resolution was passed expressing the club's appreciation of the long service in textile education of Dr. E. W. France, retiring director of the school; it was also voted to invite M. Earle Heard, incoming dean, to be guest of honor at the next meeting of the group.

Bill Friday of Dallas, N. C., a junior in the Textile School, has been elected president of the senior class at North Carolina State College for the coming year. Mr. Friday is a son of D. L. Friday, secretary of Cocker Machine & Foundry Co., Gastonia.

Thomas W. Evans has been appointed head of the rayon men's wear department of Pacific Mills, New York.

Morell Mackenzie, vice-president of Sayles Finishing Plants, Inc., Saylesville, R. I., has resigned.

Robert Cushman is the new superintendent of Abbeville (S. C.) Cotton Mills, succeeding **W. M. Langley,** retiring after 39 years.

Alexander Harley, formerly production head of Algonquin Printing Co., Fall River, Mass., is now associated with the Jewett City (Conn.) Textile Novelty Co.

J. A. Lauerman has succeeded **L. J. Wemple,** resigned, in charge of operations at Marinette (Wis.) Knitting Mills.

Edgar Weaver, printing superintendent in Proximity Print Works of the Cone mill group, Greensboro, N. C., has been elected councilman from district one, comprising the Cone mill villages, succeeding the late Julius W. Cone.

David Crowell is new superintendent of the No. 10 plant of Cannon Mills, Concord, N. C., succeeding **Fred L. Wilson,** who has been transferred to Kannapolis, N. C., as assistant superintendent of Cannon No. 4.

George Mims has become superintendent of Avondale Mills, LaFayette, Ala., plant, succeeding **Boyce Mangum.**

Sam Moreland has become superintendent of spinning with Woodside Cotton Mills, Fountain Inn, S. C. His former position at Victor-Monaghan Co., Greenville, S. C., was given to **George Ray.**

M. F. Springfield has been made superintendent of weaving at Southern Brighton Mills, Shannon, Ga. **C. G. Warren** has been made superintendent of carding.

L. R. Jamison has been made superintendent of carding as well as spinning at Rushton Cotton Mills, Griffin, Ga.

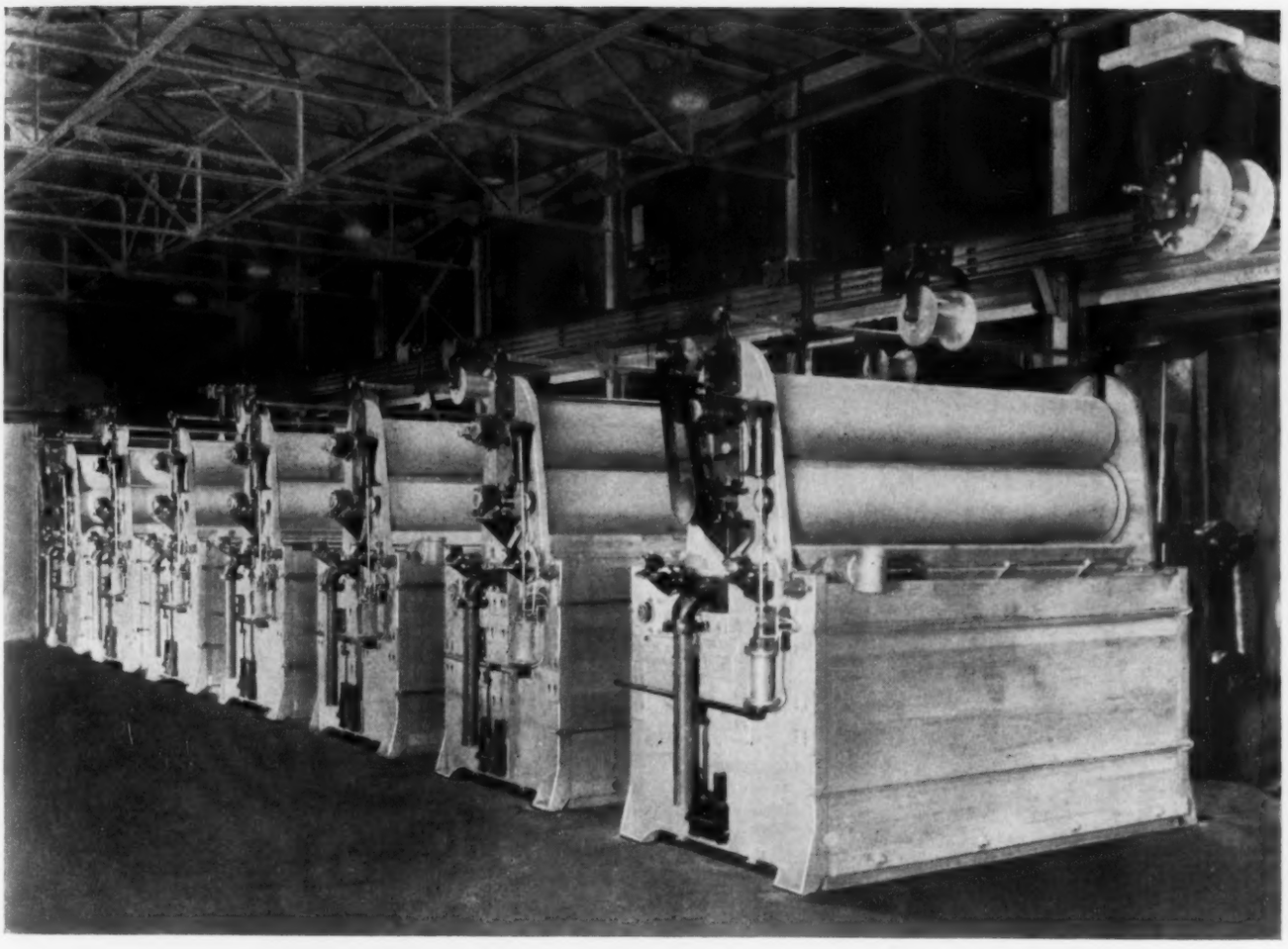
W. W. Splawn, of Drayton (S. C.) Mills, has been elected general chairman of the carders and spinners division of the Southern Textile Association which met May 25 at the Parker High School in Greenville, S. C.

John G. Shirley, former chief engineer at Arnold Print Works, North Adams, Mass., has been named superintendent of the James Hunter Machine Co., to succeed **Harry E. Cleghorn.** Mr. Shirley assumed his new post on June 1.

John R. Brown has resigned as superintendent of Stonewall (Miss) Cotton Mills, after serving in that capacity for 13 years, and has become sales representative for Arnold, Hoffman & Co., Inc., with headquarters in Meridian, Miss.

Clyde Dill has been made superintendent of weaving at Monaghan unit of Victor-Monaghan Co., Greenville, S. C. He formerly held the same position with Judson Mills.

Fletcher Talley, for two years assistant to engineer of the power plant of Swift Mfg. Co., Columbus, Ga., has been promoted to engineer of this department.



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Pictured above is the latest Hunter contribution to low cost continuous cloth scouring. This new Hunter unit differs from all other known continuous washers in a very important respect. It is this: It may be used either as a continuous range or as seven individual cloth washers which may be used all at one time with seven different loads or as few or as many bowls as may be required.

This new unit is relatively low cost in initial expense and is inexpensive to operate. For complete details, write to

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ACCIDENTAL DEATH	WEEKLY DISABILITY	$25.00 Per Week for Confining Sickness	$10.00 Per Week for Non-confining Sickness
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T. W. '40

NEWS ABOUT MEN

E. R. Swing, associated with Cannon Mills Co., Kannapolis, N. C., for the past 27 years, has been appointed superintendent of bleaching and finishing, succeeding the late Roy Propst.

Fred L. Still, formerly superintendent of Mathews Mill, Greenwood, S. C., has become associated with Exposition Mills, Atlanta, Ga., in a similar capacity.

Harold C. Knight, formerly a superintendent at Arnold Print Works, North Adams, Mass., has accepted a position with United States Finishing Co., Norwich, Conn.

A. D. Campbell has become dyer at the American Thread Co., Bristol, Va.

S. F. Burt, formerly of Opelika, Ala., has become superintendent of Avondale Mills, Pell City, Ala.

R. F. Dellinger, formerly of York, S. C., has become superintendent of the Rex-Hanover Mills, Gastonia, N. C.

Irvine Kellett, who retired last month after 58 years of service with the Pacific Mills, with the rank of overseer, was recently given a farewell banquet by the Pacific Mills Worsted Overseers Association in Lawrence, Mass. Among the speakers were **H. W. Leitch,** general superintendent; **H. T. Malley,** superintendent of manufacturing; and **E. D. Walen,** general agent, who brought greetings from President **Alfred E. Colby.** Mr. Kellett's successor, **Harry Lambert,** presented him with a 4-volume set of Sandburg's "Life of Lincoln" on behalf of the association.

Arthur B. Coe, of New Bedford, Mass., has obtained a position as technician with the United States Testing Co., New York.

Dan C. Minich has resigned as superintendent and stylist of upholstering and drapery weaving of Ranlo Mfg. Co., Gastonia, N. C.

H. D. Hundley has been promoted to overseer of weaving of Marshall Field & Co., Fieldale, Va., succeeding **J. E. Perry,** who has been transferred to the company's unit at Draper, N. C., in a similar capacity.

J. C. Stroud has become superintendent of Smithfield (N. C.) Mfg. Co.

C. G. Warren, formerly of Belmont, N. C., has become overseer of carding at Southern Brighton Mills, Shannon, Ga.

Henry H. Rankin has resigned as assistant superintendent of Cannon Mills Co., No. 4 unit, Kannapolis, N. C., and become superintendent of South Fork Mfg. Co., Belmont, N. C.

W. G. Armstrong, formerly overseer of carding at Piedmont Cotton Mills, Egan, Ga., has accepted a similar position with Scottdale (Ga.) Mills.

W. A. Marley has resigned as superintendent of Hanover Mills, Gastonia, N. C., a position he had held for many years, and has entered a private business.

A. Rigby, formerly of Hazelton, Pa., has recently become superintendent of Duplan Silk Corp., Grottoes, Va., succeeding Wm. R. Rosendale, resigned.

James E. Houlihan, until recently superintendent of finishing at Dominion Woolens & Worsteds Ltd., Hespler, Ont., is now superintendent of Summitt Dyeing Co., Toronto, Ont.

Murray Moore is now overseer of spinning at Swift Mfg. Co., Columbus, Ga., having been previously employed by Pepperell Mfg. Co., Opelika, Ala.

Wm. H. Shumate is now an overseer at Cutter Mfg. Co., Rock Hill, S. C.

Earl Dunnaway is now assistant superintendent of Hamrick Mills, Gaffney, S. C., having been promoted to this position.

E. Greenlagh, M. Sc., head dyer at Wabasso Cotton Co., Three Rivers, Que., has been named assistant to the head chemist of Canadian Aniline & Extract Co. Ltd., Hamilton, Ont.

W. H. Beach has become superintendent of the J. W. Sanders Cotton Mills, Kosciusko, Miss.

J. T. Ficklin, for some time superintendent of Ninety-six (S. C.) Cotton Mills, has been promoted to superintendent of Greenwood (S. C.) Cotton Mill, both under the same management.

W. M. Black, superintendent of production at Kerr Bleachery & Finishing Works, Concord, N. C., has resigned to enter the hosiery mill business with his brother at Midland, N. C.

Ernest A. Craddock has been appointed night overseer of carding at the Bama Cotton Mills, Enterprise, Ala.

Sidney Adler, formerly of Kosciusko, Miss., where he was connected with J. W. Sanders Cotton Mills, has become overseer of finishing at Avondale Mills, Pell City, Ala.

Jessie L. Rogers has become assistant to the overseer of carding of Bama Cotton Mills, Enterprise, Ala.

BLEACHER UMPIRES ARE OFTEN WRONG!

Near or far, anyone can guess. But the man who gives answers you can rely on is the dust-covered gent who stands right over the action.

The right answers are just as difficult in industry, as more exact manufacturing requirements add to friction's potential cost. And in the serious business of keeping down these costs, Shell men are succeeding daily by using the umpire's reliable system. They are constantly out on the job, working in your plants, getting their facts first hand.

That's why changes in design, speeds, pressures and other operating requirements of your machines don't take Shell men by surprise. They have seen those changes coming, months, sometimes years, before they arrived. And backed by the skill and resources of Shell research, they bring to new machines and old machines alike . . . in a wide variety of industries . . . lubricants that keep down costs from the day they go into service.

It's this "action-on-the-spot" method of getting the facts that pays off—and you are the one it pays. Have you had your Shell man's recommendation for your machines?

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SAVE BLEACH

with "STAR" SILICATE

STAR SILICATE, brilliantly clear and carefully purified by special process, controls the release of the oxygen so that bleaching is uniformly effective. On the other hand, when no bleachable material is present, Star stabilizes the bath, protecting against oxygen loss.

Famous mills prefer Star's dependable quality for whiter whites all the time, and for the saving in longer life of baths and perfect goods. Let a trial convince you also.

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LAWRENCE, MASS.

CRAMERTON MILLS
CRAMERTON, N. C.

MONOMAC SPINNING CO.
LAWRENCE, MASS.

NONQUITT MILLS
NEW BEDFORD, MASS.

WILLIAM WHITMAN COMPANY, Inc.

NEW YORK BOSTON PHILADELPHIA CHARLOTTE

NEWS ABOUT MEN

J. L. Cain, formerly of Kosciusko, Miss., has become overseer of weaving at the J. W. Sanders Cotton Mills, Starkville, Miss.

Bernice Graham, second hand in carding and spinning at the Gayle plant of Springs Cotton Mills, Chester, S. C., has been promoted to overseer of night carding and spinning at No. 2 mill of the Gayle plant.

Birdie Monerief, second hand in weaving at Alabama Mills, Wetumpka, Ala., has been promoted to overseer of weaving.

W. L. Batchler has been made assistant to the overseer of spinning of the Bama Cotton Mills, Enterprise, Ala.

Obituary

Julius W. Cone, 67, one of the four brothers who founded the Cone group of mills in Greensboro, N. C., died there May 17. Mr. Cone had been a member of the New York Cotton Exchange since 1917. He was chairman of the board of the Cone Export & Commission Co., vice-president of Proximity Mfg. Co., and chairman of the board of Revolution Cotton Mills. Mr. Cone moved south from Baltimore in 1889. Beside his manufacturing interests, he was associated with Jefferson Standard Life Insurance Co., and served for 17 years on the City Council of Greensboro.

William Letcher Pannill, 59, died at his home in Martinsville, Va., on May 19. He was president of Pannill Knitting Co., secretary of Virginia Underwear Corp. and Pannill-Walker Underwear Co., and vice-president of Sale Knitting Co. all of Martinsville.

W. C. Whitner, 76, one of the foremost power engineers in the South, died May 12 in Rock Hill, S. C. His plan of transmitting power to distant mills set the stage for the Southern power industry. He organized the old Catawba Co., predecessor of present Duke Power Co.

Albert W. Thompson, 66, vice-president and director of Parks-Cramer Co., Fitchburg, Mass., died at his home in Lowell, Mass., May 18. A graduate of M. I. T., he was for 10 years active in the mechanical division of Amoskeag. He became a director of the G. M. Parks Co. (later Parks-Cramer Co.) in 1910, and in 1914 became actively associated with that firm. He was the inventor of the original Turbo humidifier. "Air Conditioning in Textile Mills," the first edition of which he issued in 1924 was virtually a log book of his experience as engineer and manufacturer.

Alfred M. Moore, 73, pioneer textile executive, died on May 16 in Wellford, S. C. He had been treasurer of Lockhart (S. C.) Mills and of Gaffney (S. C.) Mfg. Co. He founded the Jackson Mills at Iva, and later erected the second Jackson unit at Wellford. Several years ago, he purchased High Shoals (N. C.) Mills which he named Jackson No. 3.

Albert W. Thompson

Alfred L. Tyler, chairman of the board of Anniston (Ala.) Mfg. Co., and for some years until recently president of that company, died May 7.

William Winslow Flowe, 66, president of Hugh Grey Hosiery Mill and Hoover Hosiery Mill, Concord, N. C., and also secretary-treasurer of both the Roberta Mill and White Parks Mill, died April 29 at Presbyterian Hospital in Charlotte, N. C.

Arthur A. Weise, president of Textile Dyeing Co., Toronto, Ont., and Uxbridge Woolens, Ltd., Uxbridge, Ont., died recently at the latter place.

George H. Estes, treasurer of Continental Mills, Lewiston, Me., died June 5. He joined the firm in 1911 and later succeeded his father in management of the mill.

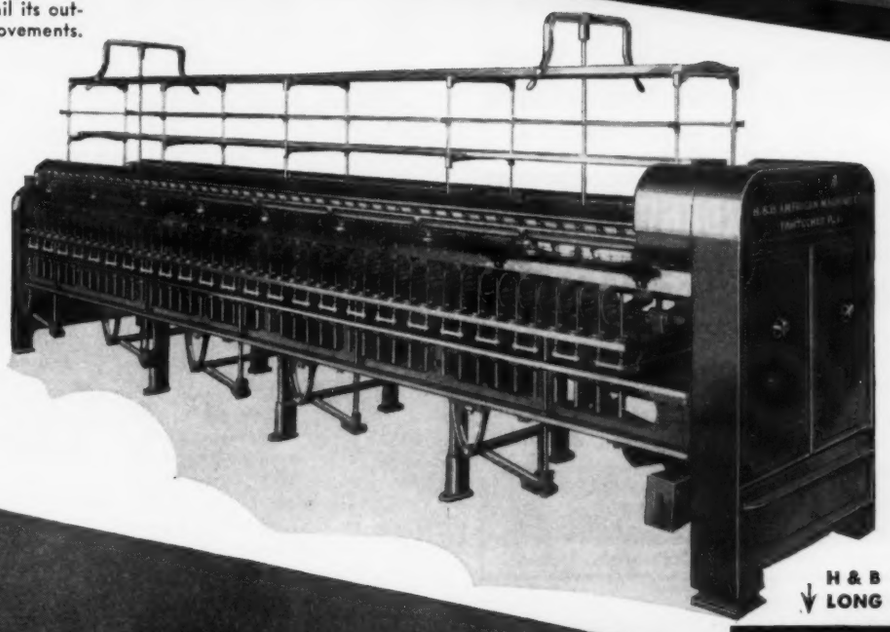
Maurice W. Hambleton, 51, president and general manager of the New England Bobbin & Shuttle Co., Nashua, N. H., died June 5. He founded the company 14 years ago.

William Lieff, 72, president of Lieff Textile & Supply Co., Bridgeport, Ct., died recently.

Albert H. Esten, 72, for over 30 years president of

H & B LARGE PACKAGE SPINNING FRAME WITH 4-ROLL LONG DRAFT

★ We illustrate our new model spinning frame herewith and upon request will be glad to explain in detail its outstanding improvements.



H & B 4-ROLL LONG DRAFT SYSTEM

HELPS MILL INCREASE LOOM PRODUCTION 4 TO 5%

SIMPLICITY THE SECRET OF EFFICIENCY

Last year an Alabama Cotton Mill installed 36 of our New Model large package warp frames equipped with 4-Roll Long Draft and changed over an equal number of filling frames to the same system of Long Draft. In addition to the usual savings effected in the card room, the stoppage was materially reduced and weaving production increased from 4 to 5%.

The installation of the large package spinning frames reduced the number of knots in the warp 50% and produced a stronger yarn which made possible higher loom speeds.

The modernization of this mill is an outstanding example of what substantial returns can be secured from a comparatively small investment.

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H&B AMERICAN MACHINE COMPANY

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EXPORT DEPARTMENT: United States Machinery Co. 115 Broad St., New York, N. Y.

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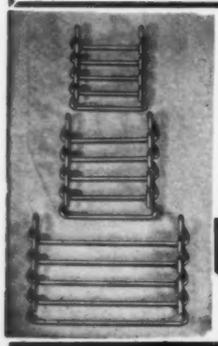
TO IMPROVE YOUR PRODUCT
AND SAVE YOUR MONEY . . .



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The ideal tool for cleaning out slots in sinker and divider heads. Made in all gauges. Each one comes in a leather carrying case.

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ONGER SERVICE
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ONGER UNIFORMITY OF PRODUCT

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Wire Covering Machines
Belt Loop Cutters
Pocket Folding Machines
Special Machines designed and built

For efficient multiple-spool winding with uniformly smooth lay. Winds from barrel or pin swifts, cops, cones, etc. Write for catalog.

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ALLEN HOLLOW
Hex Socket SCREWS
FOR TEXTILE MACHINERY

Heads set flush with machine surfaces; no sharp edges to catch fabrics; no slots to burr and pull threads. Strongest, handiest screws to use; hold tight under vibration. Ask for *free samples* — indicate types and sizes wanted.
ALLEN MFG. CO., Hartford, Ct.

NEWS ABOUT MEN

Esten Dyeing & Winding Co., Warwick, R. I., died at East Greenwich, R. I., on May 8.

James A. Sinclair, proprietor of Sinclair Curtain Co., Fall River, Mass., and long identified with the Charlton Mills, died on May 4.

Arthur L. Jenkins, 67, treasurer of Emmons Loom Harness Co., Lawrence, Mass., died in that city May 26. He had served Emmons for 51 years.

Otto H. Falk, 74, chairman of the board of Allis-Chalmers Mfg. Co. and previously president of the company for many years, died May 21 at his home in Milwaukee, Wis. Born in that city in 1865 he had an illustrious military career reaching the rank of brigadier general in 1911 when he retired. In 1912 he was appointed receiver of the old Allis-Chalmers Co., about a year later was elected president of the reorganized concern, and he continued to build the company to its present-day position.

Herbert M. Walker, 63, formerly sales manager of the men's wear worsted division of the Pacific Mills, died April 14 at his home in New York City. He was with the Pacific Mills for 16 years. Prior to that he was connected with Nixon, Walker & Tracy, men's wear mill agents.

James E. Osborn, 80, for many years a leading figure in textile circles in Fall River, Mass., died May 30. He had been treasurer of the American Linen Co. and Merchant's Mfg. Co., and president of the Fall River Cotton Manufacturers' Association.

W. H. Fanning, 69 retired cotton mill executive died May 1 at his home in Forest City, N. C. He was formerly with Woodruff (S. C.) Cotton Mills and also Langley Mills, retiring about two years ago.

Ben T. Bently, 56, of Valdosta, Ga., for a number of years secretary of the Strickland Cotton Mills, died May 2.

Edward McPherson, treasurer of Better Sox Knitting Mills, Fort Atkinson, Wis., died there recently.

Joseph W. Baker, 72, secretary of Manville Jenckes Corp., Manville, R. I., died at his home in West Wrentham, Mass., May 14. He had been associated with the Jenckes textile interests for 57 years.

Frank L. Furbush, 79, consulting engineer for C. G. Sargent's Sons Corp., textile machinery manufacturers, Graniteville, Mass., died April 20. He had been associated with that firm for nearly 60 years.

John T. Duncan, 82, president of Douglas Hosiery Mills, Douglasville, Ga., died recently.

Carl Bosch, 65, chairman of I. G. Farbenindustrie, A. G., died in Heidelberg, Germany recently.

Herbert Wallace Daly, 38, associated with John J. Ryan & Son, New York, in the sale of Cisa Viscosa rayon staple fiber died May 12.

M. G. Stone, 89, retired textile executive, died May 1 in Spartanburg, S. C. He was formerly president of Whitney Cotton Mills, Spartanburg, and later superintendent of New Holland (Ga.) plant of Pacolet Mfg. Co.

Carl Henry Weiss, 67, manufacturer of hosiery, died recently in Cleveland, Tenn. At various times he had been associated with Cleveland Hosiery Mill, Weiss Hosiery Mill (both of which he organized), and Cherokee Hosiery Mill.

James B. Huff, 80, director of the old Hamburger Mills, now Bradley Mfg. Co., Columbus, Ga., died May 14.

Charles A. Stewart, 80, inventor, manufacturer and former assistant superintendent of Great Falls Bleachery, Somersworth, N. H., died May 2 in Andover, Mass.

William A. Patterson, of Patterson & Co., dean of Boston wool merchants, and chairman of the board since 1923, died at Hingham, Mass., on May 16. He was senior partner until incorporation in 1923.

Walter C. Smith, 55, vice-president of Derby Textiles, Inc., Louisville, Ky., died April 25.

George Andrew Buchanan, 75, who retired as superintendent of Manetta Mills, Lando, S. C., several years ago, died at his home in Darlington, S. C., May 21. He had served as superintendent of Arcade Mills, Rock Hill, S. C., Darlington (S. C.) Mfg. Co., and other mills.

Victor W. Zilen, mechanical engineer for Tubize Chatillon Corp., Rome, Ga., for the last three years, and prior to that with the Lucey Mfg. Co., Chattanooga, Tenn., died in Chattanooga recently.

Richard L. Harpel, 52, for a number of years a traveling erector of full-fashioned machines for Textile Machine Works, Reading, Pa., died May 17.

Owen Wright, 60, traveling sales representative of the Minneapolis Knitting Mills for 30 years, died recently at his home in Detroit.

John Hehnke, 55, a department foreman at Janesville (Wis.) Cotton Co., is dead.

A NOVEL WAY TO SAVE MONEY

From a large collection of old-fashioned mechanical savings banks comes this amusing contraption for saving money, called "Driving the Mule Into the Barn." It is operated by springs. First a coin is placed between the mule's heels. When a lever is pressed, a little dog runs out from the barn and jumps at the mule who kicks up his heels and throws the coin over his head into the barn, which cannot be opened except with a special key.

YOU SAVE MONEY, TOO, WITH DECERESOL* AND AQUASOL*

DECERESOL, one of the best known and most widely used of surface active agents, means savings for you because of its remarkable efficiency in wetting, penetrating and dye leveling all types of fabrics—cotton, wool, rayon and silk.

AQUASOL, a highly sulphonated castor oil made from the best grade of raw materials, produces excellent wetting out and softening results at a saving in cost because of its high efficiency, good solubility and unusually light color. It is available in various grades to meet your special requirements.

WRITE NOW for more specific information on the advantages of DECERESOL and AQUASOL.

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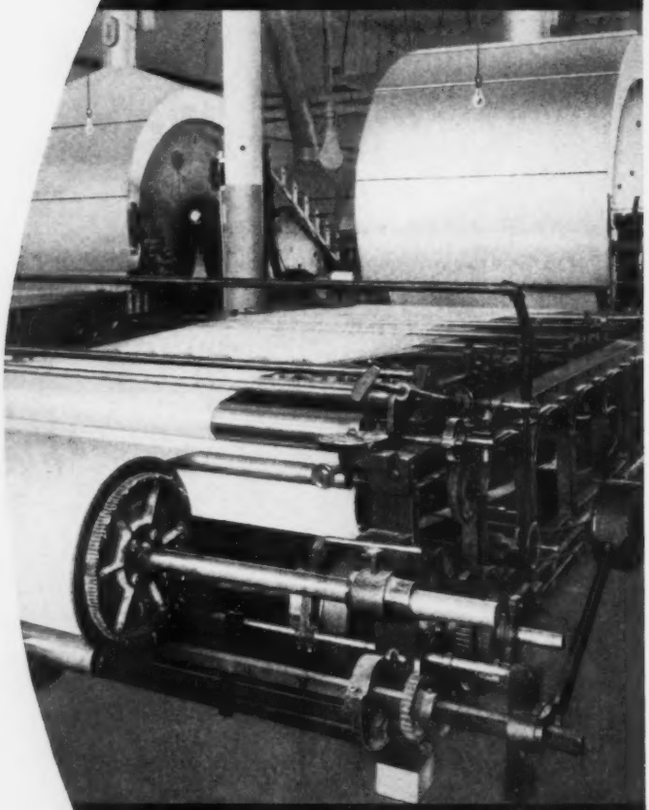
★ UNIFORMITY
★ SERVICE

Warp Sizing Starches



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MILL STARCHES
CORN PRODUCTS REFINING CO.

TEXTILE MILL NEWS

Cotton Mill News

Anniston (Ala.) Mfg. Co. has completed the one-story addition to weave room, with Daniel Construction Co., of Anderson, S. C., in charge. J. E. Sirrine & Co., Greenville, S. C., prepared the plans. The building program and new machinery will cost about $50,000. Boiler house improvements will be made for a new 200 hp. Babcock & Wilcox boiler with Detroit stoker and Cochrane feed-water heater; to cost about $20,000.

Arcade Cotton Mills, Rock Hill, S. C., have begun erection of two-story addition, 26 x 80 ft., with covered passageway, 10 x 60 ft., connecting with present mill, for which general contract was let recently to Daniel Construction Co., Birmingham, Ala. J. E. Sirrine & Co., Greenville, S. C., are architects and engineers. Sprinklers are by Grinnell Co.

Berkshire Fine Spinning Associates division in Holyoke, Mass., formerly the cotton plant of Farr Alpaca Co., has started up. Chester Dawley, Berkshire engineer, is in charge. It was expected that by June 1, 500 would be employed.

Caldwell Cotton Mills Co., Hudson, N. C., plans changing over about 6000 spindles to long-draft type. Company recently completed installation of about 3000 new spindles, 3 inter-draft slubbers and accessory equipment.

California Cotton Mills Co., Oakland, Calif., have begun one-story addition, for which general contract was let to Lindgren & Swinerton, Inc., San Francisco. Cost reported about $45,000, with equipment.

Candlewick Yarns Inc., Dalton, Ga., has installed 2,000 spindles and started operation. R. F. Hamilton is president.

Courtenay Mfg. Co., Newry, S. C., has completed installation of new machinery which included 12,000 long-draft spindles.

Commander Mills, Inc., Sand Springs, Okla. have nearly completed two-story addition, 235 x 164 ft., for which general contract was let to Forner Construction Co., Tulsa, Okla., and will soon begin installation of equipment. New unit has been designed to double capacity of plant, at cost of about $250,000, and is expected to be ready for operation in July. J. E. Sirrine & Co., Greenville, S. C., are architects and engineers.

Erwin Cotton Mills, Durham, N. C., plans installation of two new 400 hp. Babcock & Wilcox boilers at cost of over $100,000 to replace boilers in Plants Nos. 1 and 4.

Falls Mfg. Co., Granite Falls, N. C., has awarded contract to Erwin Construction Co., Catawba, N. C., for a 100-ft. addition.

Fulton Bag & Cotton Mills, Boulevard, S.E., Atlanta, Ga., have awarded general contract to A. K. Adams Co., for eight-story warehouse at 550 Rennel St., to cost over $75,000.

Glenn Mfg. Co., Lincolnton, N. C., has installed Jackson Moistening atomizer humidifying equipment.

Greenville (N. C.) Spinners, Inc., are renovating machinery and installing new equipment including high-speed winders, vacuum card-stripping equipment, and conditioning-room fixtures. The mill has also built five eight-room houses for employees and has repaired other homes in its village.

Henry River (N. C.) Mills Co. has built an addition.

Hudson Woven Label Co., Inc., West New York, N. J., has concluded arrangements with Hagerstown (Md.) Progress Corp., to construct a one-story industrial building, 50 x 200 ft., to be occupied under long-term lease.

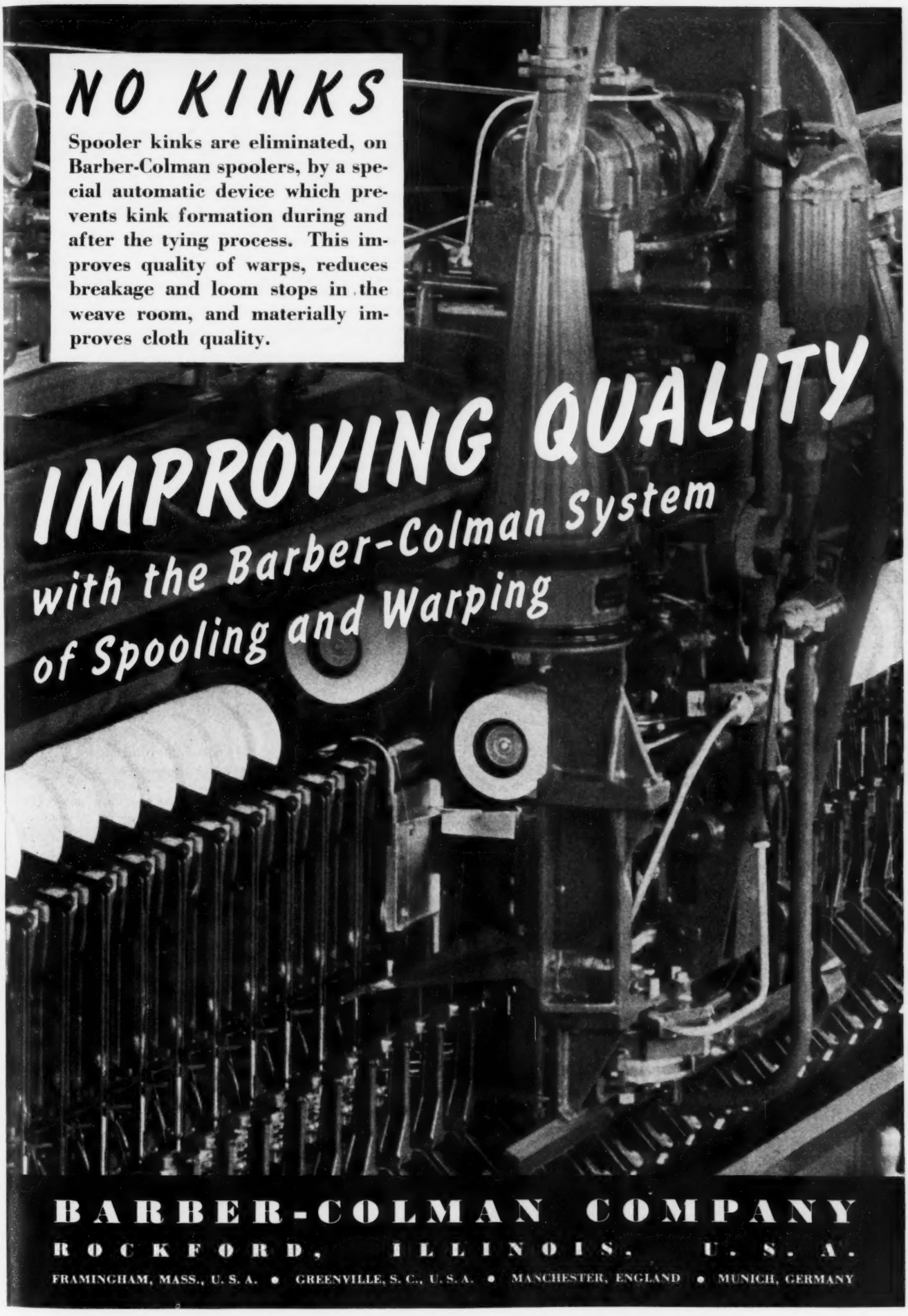
Industrial Cotton Mills, Rock Hill, S. C., are constructing a three-story addition, 79 x 81 ft. Plans were prepared by J. E. Sirrine & Co., Greenville, S. C., and Daniel Construction Co., of Anderson, S. C., has the contract.

Kinston (N. C.) Textile Mills have had their receivership ended after paying preferred creditors and distributing a dividend of 3.49% to common creditors. Company was formerly Caswell Mills. Property is now being operated as the Glen Raven Mills, No. 2, having been purchased by Glen Raven Cotton Mills, Burlington, N. C.

Lavonia (Ga.) Mfg. Co. has installed a single-process picking machine and additional picking equipment, long draft in both carding and spinning, and new winding equipment.

Lyseth Thread Co., Boston, Mass., is now part of General Thread Mills, Inc.

Maitland Spinning Mills, Ltd., Listowel, subsidiary of Mercury Mills, Ltd., Hamilton, Ont., has awarded general contract to W. H. Cooper Construction Co., Hamilton, for erection of three one-story additions, two 135 x 40 ft., and


NO KINKS
Spooler kinks are eliminated, on Barber-Colman spoolers, by a special automatic device which prevents kink formation during and after the tying process. This improves quality of warps, reduces breakage and loom stops in the weave room, and materially improves cloth quality.
IMPROVING QUALITY
with the Barber-Colman System
of Spooling and Warping
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ROCKFORD, ILLINOIS, U. S. A.
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Large Stocks... Uniform High Quality... Immediate Shipment... Principal products include—Alloy Steels, Tool Steels, Stainless Steel, Hot Rolled Bars, Hoops and Bands, Beams and Heavy Structurals, Channels, Angles, Tees and Zees, Plates, Sheets, Cold Finished Shafting and Screw Stock, Strip Steel, Flat Wire, Boiler Tubes and Fittings, Mechanical Tubing, Rivets, Bolts, Nuts, Washers, etc. Write for Stock List. Joseph T. Ryerson & Son, Inc. Plants at: Chicago, Milwaukee, St. Louis, Cincinnati, Detroit, Cleveland, Buffalo, Boston, Philadelphia, Jersey City.

SUPER-FIN.. for Dyeing without Grease Spots in spite of hard water or oils in the goods

Super-Fin for hosiery finishing has great emulsifying qualities. Improves finish. Adds elasticity to silk. Treat every bath with Super-Fin and get even dyeing, avoid re-dyes. Replace an equal amount of degumming with Super-Fin, at no extra cost, and get a better finished product. . . Other high grade "Standard" Products include Drummond Soap, Stanso Palm Oil Curd Soap, etc., etc.

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Allegheny Ave. & Janney St. PHILADELPHIA

one 70 x 60 ft., at cost of $100,000.

Mayo (S. C.) **Mills, Inc.,** is installing H & B long draft on all spinning frames. The mills recently completed installation of 12 twisters and 24 spinning frames, purchased from Bigelow Sanford Carpet Co.

Mills Mill, No. 2 plant, Woodruff, S. C., has installed $20,000 worth of new machinery. It has also constructed a new warehouse costing $5,000.

Monarch Mills, Union, S. C., have been installing 44-in. looms.

Morgan Cotton Mills, Laurel Hill, N. C., have installed Jackson Moistening atomizer humidifying equipment in both units of the company. Work was done by G. A. White & Co., Charlotte, N. C.

Naomi Cotton Mill, Randleman, N. C., has been renovated and leased to interests in Rockingham, N. C. It is operating on cotton rugs and mops.

J. M. Odell Mfg. Co., Bynum, N. C., is constructing a new complete hydro-electric plant of 800 hp.

Page Mill, New Bedford, Mass., empty for several years, has been sold to Robert J. Cohen, Fall River, and will be used for housing diversified industries. Mr. Cohen also is owner of the Grinnell Mill and part owner of the Booth Mill.

Ranlo Mfg. Co., Worth, N. C., has installed a new 300 hp. hydro-electric unit in its Harden unit.

J. W. Sanders Cotton Mill, Magnolia, Miss., has completed installation of much new machinery, replacing obsolete equipment.

Social Circle (Ga.) **Cotton Mills** have recently installed much new machinery including 16 long-draft spinning frames; one Barber-Colman spooler and warper, eight Saco-Lowell drawing frames, eight Whitin cards, two Saco-Lowell lap winders, and seven Woonsocket long-draft roving frames.

Springs Cotton Mills, Lancaster, S. C., have begun two-story addition to warehouse, 62 x 75 ft., and will carry out work by day labor. Cost estimated about $35,000. J. E. Sirrine & Co., Greenville, S. C., are architects and engineers.

Spartan Mills, Spartanburg, S. C., have completed installation of 78 new looms and acessories; also 50,000 Saco-Lowell long-draft spindles.

Threads, Inc., Monticello, Ind., unit, has been closed and most of the machinery has been moved to the headquarters unit of the company at Gastonia, N. C.

Watts Mill, Laurens, S. C., is installing a new sewerage system for a portion of its mill village. J. E. Sirrine & Co. is engineer; Reed & Abee, Asheville, N. C., has the contract.

Wymojo Yarn Mill, Rock Hill, S. C., a unit of Textiles, Inc., Gastonia, N. C., has been sold to Joseph P. Eskes and associates of Clinton, Mass.

Wool Mill News

Adelphia Worsted Mills, Philadelphia, have taken over the plant of Dauntless Worsted Mills at D and Tioga Sts., greatly increasing its capacity.

American Felt Co., Glenville, Conn., has asked bids on general contract for one and two-story addition, 74 x 146 ft. Cost close to $45,000, with equipment. Henry H. Fales, Providence, R. I., is architect.

William Collie Woolen Mill, Appleton, Ont., which was destroyed by fire on March 14, is again operating. Construction of a modern one-story building was rushed.

Farr Alpaca Co's worsted and rayon divisions, Holyoke, Mass., have been purchased by A. M. Kahn of New York, president of Consolidated Products Co. The sale includes the finishing plant. This purchase completes the disposition of the Farr property. It comprises over 1,000.000 sq. ft. of floor space of modern buildings equipped with spinning, weaving and dyeing machinery. Mr. Kahn hopes to sell or lease part of the property as operating textile units.

Fawcett & Grant Ltd., has been organized to open a worsted weaving plant at Huntingdon, Que. Equipment includes 8 automatic Crompton & Knowles looms.

Gilbertville (Mass.) **Mills** were sold April 25 to the Tyrex Products Co., subsidiary of Tyrex Mfg. Co., Norfolk, Va., rubber manufacturers.

Killaloe (Que.) **Mill** plans early rebuilding of portion of one-story carding department, recently destroyed by fire. Loss estimated close to $25,000, with equipment. M. C. Grace, Eganville, Ont., is engineer.

Macon (Ga.) **Textiles, Inc.,** unit of Uxbridge (Mass.) Worsted Co., has awarded contract for two-story addition which, including machinery, will cost $80,000.

Midland (Ont.) **Woolen Mills** have plans under way for new one-story mill on local site, reported to cost about $50,000, including equipment.

West Texas Woolen Mills. El Dorando, Tex., now being built, will manufacture blankets, suitings, batting and yarns. It will also have some

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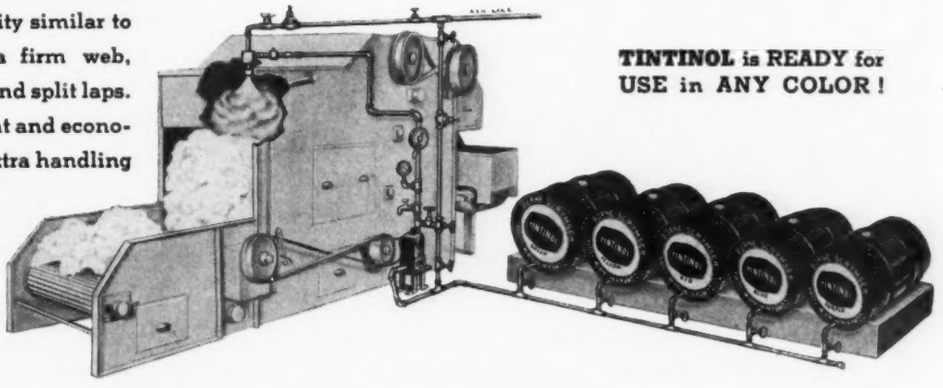

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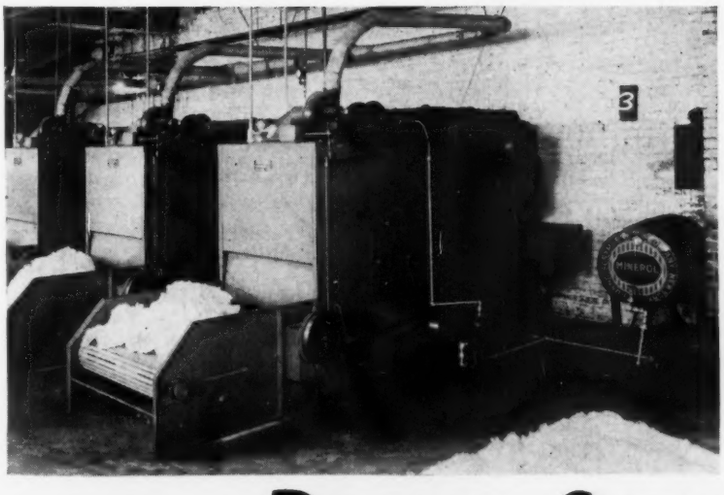

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looms for hand weaving which individuals may arrange to use. Plant will also manufacture on commission.

Worumbo Mfg Co., Lisbon Falls, Me., reports profit for the first quarter of its fiscal year (Dec. 1 to Feb. 29) of about $40,000 compared with a large deficit for the period one year earlier.

Silk & Rayon Mill News

Canadian Celanese, Ltd., Drummondsville, Que., plans expansion in mill and equipment. Cost estimated over $1,000,000, with machinery. Firm has acquired option on land in town of Mount Royal in connection with proposal to build a plant.

Doherty & Wadsworth, Paterson, N. J., plant is in hands of Arthur P. Neale as receiver on claims by the Citizens Trust Co.

Celanese Corp. of America, Inc., New York, N. Y., has begun work on superstructure for addition to branch mill at Pearisburg, Va., to be used for expansion in spinning division, with space reserved for a machine shop and cafeteria. About 24 new spinning machines and auxiliary equipment will be installed. This is part of an extensive expansion program to be carried out at this plant. Company stockholders will meet June 20 to vote permission to the directors to raise a total of $50,000,000 (including $20,000,000 already authorized) to increase output and sales facilities.

Courtaulds (Canada), Ltd., plans erection of 20 more spinning machines in the Cornwall, Ont., plant. These machines will occupy space in the No. 4 unit.

Haledon (N. J.) Silk Mills have preliminary plans for rebuilding portion of three-story mill destroyed by fire several weeks ago. Loss reported over $45,000, with eequipment.

Hess-Goldsmith & Co. Inc., New York, has acquired the Puritan Mill of the Duplan company in Wilkes-Barre, Pa. Hess-Goldsmith will discontinue weaving at its Blackman St., plant, Wilkes-Barre, which will be occupied for silk-throwing by the Atwater Silk Corp., a subsidiary. Company will continue its silk weaving plant in Kingston, Pa. New type automatic looms have been purchased and will be installed in the Puritan mill.

La France Industries, and its subsidiary, **Pendleton Mfg. Co.,** La France, S. C., have had their plan of reorganization confirmed by Federal Court after four years litigation. It involves an RFC loan of $600,000.

William Skinner & Sons, Holyoke, Mass., is preparing to install 64 new X-D Draper automatic looms for rayon cloth manufacture for the automobile industry. These new looms will be installed in July and August on the first floor of the main building.

Sutton Silk Mills Ltd., Montreal, Que., has been incorporated to establish a rayon weaving mill at Sutton, Que. It is a subsidiary of British American Silk Mills Ltd., and will operate 42 Crompton & Knowles looms.

Vernon Mfg. Co., Orange, Va., recently began operations manufacturing velvets in a modern building especially constructed to house it.

John C. Welwood Corp., Murfreesboro, Tenn., is the name of the reorganized Welwood-Norwich Silk Mills, Inc.

Knitting Mill News

Appalachian Mills, Knoxville, Tenn., will replace all its dyehouse and bleaching equipment with stainless steel machines made by Rodney Hunt Machine Co., Orange, Mass.

Baker-Goodman Hosiery Mills, Hickory, N. C., have been acquired by new interests, headed by C. F. Amos, Conover, N. C., and Green McCombs, Newton, N. C., which will take over property at once.

Butterfly Hosiery Co. Ltd., Drummondville, Que., recently purchased four new 28-section Kalio "Complet" knitting machines to handle the increasing demand for their full-fashioned silk hose. Production will be increased by 12%.

William Carter Mfg. Co., Barnesville, Ga., is constructing an addition to its finishing department giving 6,000 sq. ft. more floor space.

Cleveland (Tenn.) **Hosiery Mills,** recently purchased by C. C. Card, B. C. Brown, and Pat Kirby, has been capitalized at $25,000. Mr. Card was elected president, Mr. Brown vice-president, and Mr. Kirby secretary, treasurer, and manager.

Davenport Hosiery Mills, Chattanooga, Tenn., will spend $53,500 to install air-conditioning in knitting and throwing plants. The firm recently spent $9,000 for fluorescent lighting.

Hollar Hosiery Mills, Inc., Hickory, N. C., will soon install 10 new automatic knitting machines and auxiliary equipment, providing for increased capacity. Program includes, also, installation of attach-

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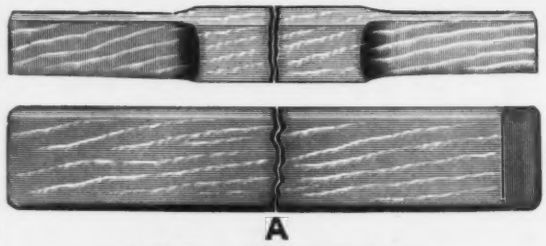

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ments on certain present machines for manufacture of elastic tops on men's hose.

Jones County Hosiery Mills, Ellisville, Miss., recently organized, have leased one-story industrial building to be erected by municipality.

Liberty (N. C.) **Hosiery Mill** has nearly completed installation of equipment in new one-story finishing mill addition, totaling about 12,000 sq. ft., and will place unit in service at early date, when more than 60 operatives will be added.

Meridian (Miss.) **Hosiery Mills** plans expansion and installation of new machinery.

Lester A. Miller, general manager of Musgrove Knitting Co., Pittsfield, Mass., from 1933 until it suspended business several weeks ago, is preparing to establish a woolen knitting plant at Chatham, N. Y., employing 200. The new business will retain the name of Musgrove Knitting Co., but Mr. Miller will be the owner.

William Reed Sons, Birdsboro, Pa., hosiery manufacturers have purchased the building formerly occupied by Harry M. Willits shoe manufacturers on Beacon Street.

Ripon (Wis.) **Knitting Works** plans erection of a building to house its yarn plant.

Robbins Bros. Hosiery Mills, High Point, N. C., has been organized by L. H. and I. R. Robbins. They will make misses' goods on 24 Banner machines.

Russell-Watkins Corp., Greensboro, N. C., recently organized with capital of $100,000 by Allen H. Watkins, an official of Bogle-Watkins Corp., with local knitting mill, and associates, plans early operation of mill on hosiery and other knitted wear. Mr. Watkins will head new company; Phillip M. Russell, another incorporator, will be an official.

Sellers Hosiery Mills, Burlington, N. C. will construct an addition.

Sheer Silk Hosiery Mills Ltd., Sherbrooke, Que., are installing four 20-section 42-gage full-fashioned hosiery machines made by Textile Machine Works, Reading, Pa. The new machinery will increase production by 30%.

Slatedale (Pa.) **Knitting Mills** has purchased the equipment of Lowell (Mass.) Hosiery mills including Banner 12-step machines and Brinton jacquard ribbers, and will move to Slatedale.

Tempo Hosiery Mills, Ephrata, Pa., has taken over equipment and business of American Full-Fashioned Hosiery Mills. Tempo was organized by August Pross and Betty Harris formerly with American.

Vermont Kedron Mills, South Woodstock, Vt., is the new name of the Kedron Knitting Co.

Walton Knitting Mills, Hickory, N. C., is building a 40 x 36 ft. addition to provide more room for its knitting machines.

Wayne Knitting Mills, Fort Wayne, Ind., have bought the John Bromley Knitting Mills, Riverside, N. J., and will operate.

Williamson Hosiery Mills, A. J. Williamson, owner, Englewood, Tenn., has begun operations with 14 machines.

Processing Plant News

Cliffside Dyeing Corp., Paterson, N. J., newly formed, is starting operations in the former plant of Reliance Piece Dye Works. Alphonse Van Houten is president-treasurer.

Crew Piece Dye Works, Paterson, N. J., is now established in the former plant of United Ribbon Dyeing Co., 187 Franklin St., having moved to that location from East Paterson.

Delmoore Dye Works, Inc., Cold Spring-on-Hudson, N. Y., recently organized, has taken over local mill and equipment of Blackmoore Dye Works, and will continue operation of plant. Improvements are planned. Joseph J. Deluccia and Louis Katz head new company.

Peter and Felix Fortney, New York, N. Y., have leased six-story building at 115-19 Crosby St., 57 x 85 ft., and will equip and occupy for new textile dyeing and printing works.

Gaede Dyeing Co., Inc., Paterson, N. J., has been formed to succeed the Gaede Silk Dyeing Co. without interruption. Bert B. Allen is president.

Gregg Dyeing Co., Graniteville, S. C., has completed a building to house apron conveyor equipment.

Ideal Dyeing & Printing Co., Paterson, N. J., recently organized, is now operating a local mill in one of the buildings of the Dolphin Jute Mills.

United Piece Dye Works, Lodi, N. J., reports net loss for 1939 of $399,999 compared with net loss of $719,052 for 1938.

United States Finishing Co. reports net loss of $68,284 for the year ending Dec. 31, 1939, the lowest loss in 10 years. Loss in 1938 totaled $343,189.

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H. G. LORD Comments on

War and Politics

It is difficult to think or talk of anything today except war and politics. And how we would like to get rid of both! That is wishful thinking so far as war is concerned, but in preparing for defense we can substitute hard work under constructive leadership in place of political expediency and social experiments. If this country is ever going to pull itself together to meet the greatest emergency in its history, and if it is to do a good defense job, it must have leadership which it can trust, to give proper direction and efficient supervision to the kind of a job that is necessary for industry to do.

It is 1917 over again, only we start this time from way behind scratch, both in equipment and moral fibre.

We have become "soft." So had the Allies. It was not until the Nazis invaded Poland and Norway that the French waked up and buckled down to hard work in turning out the sorely needed planes, guns and tanks. *But it was too late.* Are *we* going to wait until it is too late? Is some more frightful development necessary to wake *us* up?

If I didn't remember how we rose to the occasion in 1917 and 1918, I would think it is going to be very difficult to pull ourselves out of the half dazed, hog-tied state we have gotten into, and get back into our full stride. It must be a faster pace than anything in the world today because of the time lost while we have been day-dreaming and taking a joy ride. But with the country united under a vigorous and trusted leadership, I have no fear but that the United States can still "go places."

McGraw-Hill has acted promptly in appointing its National Editorial Defense Board to help coordinate industry with government. With its publications covering all branches of industry, it is in a strategic position to help, not only through its publications, but with its large staff, which is intimately familiar with the specific needs of the war work. This cooperation has been welcomed in Washington. The members of the board and its specially appointed representatives are now in constant touch with the Army and Navy Bureaus and Departments.

TEXTILE WORLD has already started to shape its editorial program to be most helpful to the textile industry in the great national defense movement. We did a similar job in the last war, but we will do a better job his time because we have more experience and a larger organization.

Certainly there are strenuous and stimulating times ahead for all of us. Let's go.

H. G. LORD, *founder of Textile World in 1888 and president, Bragdon, Lord & Nagle Division, McGraw-Hill Publishing Co.*